VOL. 75 NO. 6

textile bulletin

JUNE • 1949

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A session-by-session report of what took place during the last Spinner-Breeder Conference will be found in this issue; please turn to Page 43.

JUN 30 1949

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NON-FLUID OIL
TRADE MARK REGISTERED

The Ideal Loom Lubricant

The ideal loom lubricant must put a positive check on friction, be dripless, spatter-proof and must stay where applied until entirely used up. Possessing *all* these qualities, NON-FLUID OIL is the ideal lubricant . . . preventing "oil spot" loss while effecting substantial time and lubricant savings by outlasting oil 3 to 5 times.

Write for Bulletin T20TB and free testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT CO.
292 Madison Avenue, New York, N. Y.
Southern District Manager: FALLS L. THOMASON, Charlotte, N. C.
WORKS: Newark, N. J.
WAREHOUSES: Atlanta, Ga.—Greenville, S. C.—Charlotte, N. C.—
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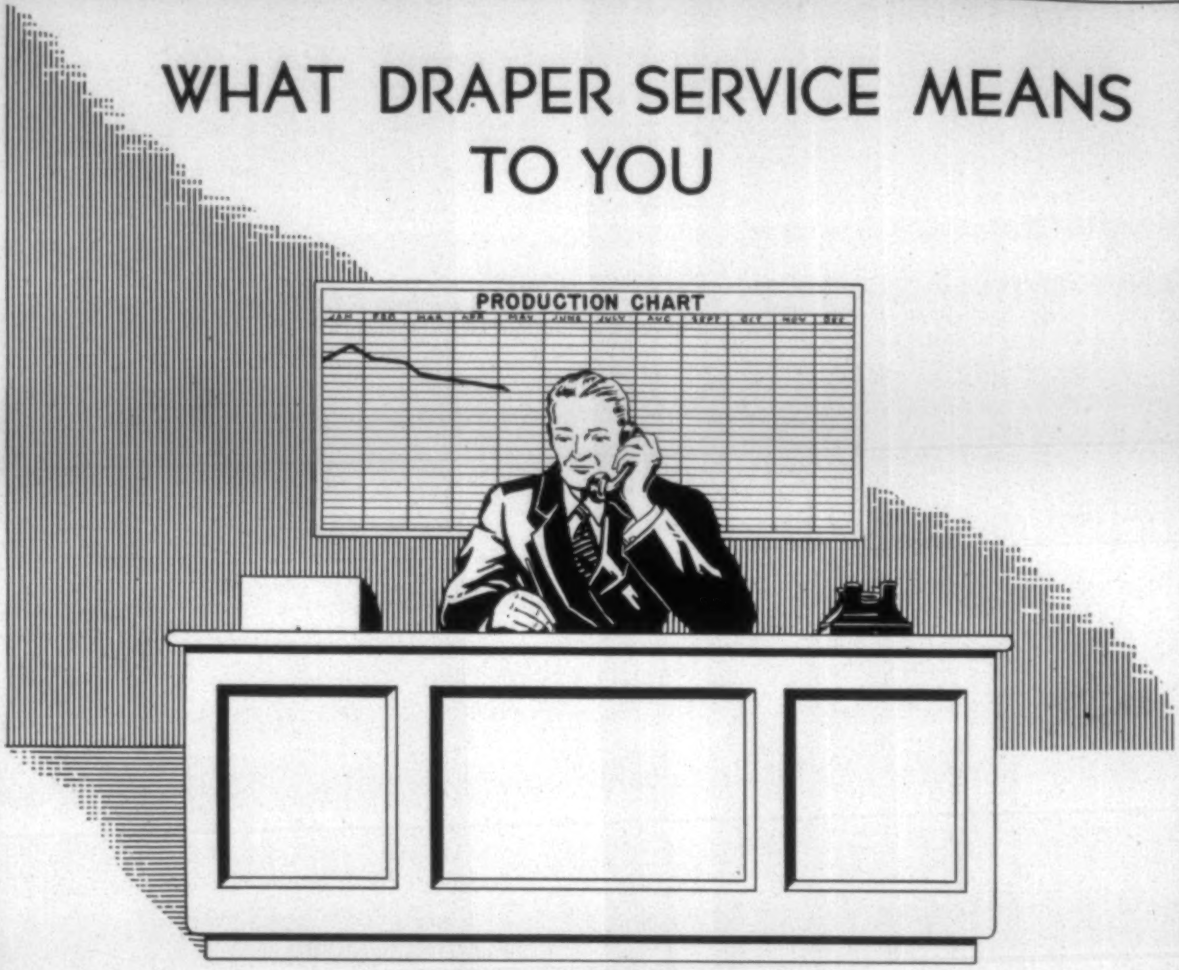
NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.



WHAT DRAPER SERVICE MEANS TO YOU

If you are plagued by bad cloth or a new style is giving you trouble and your profits are disappearing in today's highly competitive market, a Draper Serviceman may be able to help you. These skilled technicians are able to draw upon a fund of over 50 years accumulated knowledge of the art of weaving on automatic looms. You can bank on their advice.

Backing up the Draper Servicemen, our Engineering and Research Departments stand ready to assist you in solving your problems.

If you need help don't fail to call us.

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Atlanta, Ga. Hopedale, Massachusetts Spartanburg, S.C.

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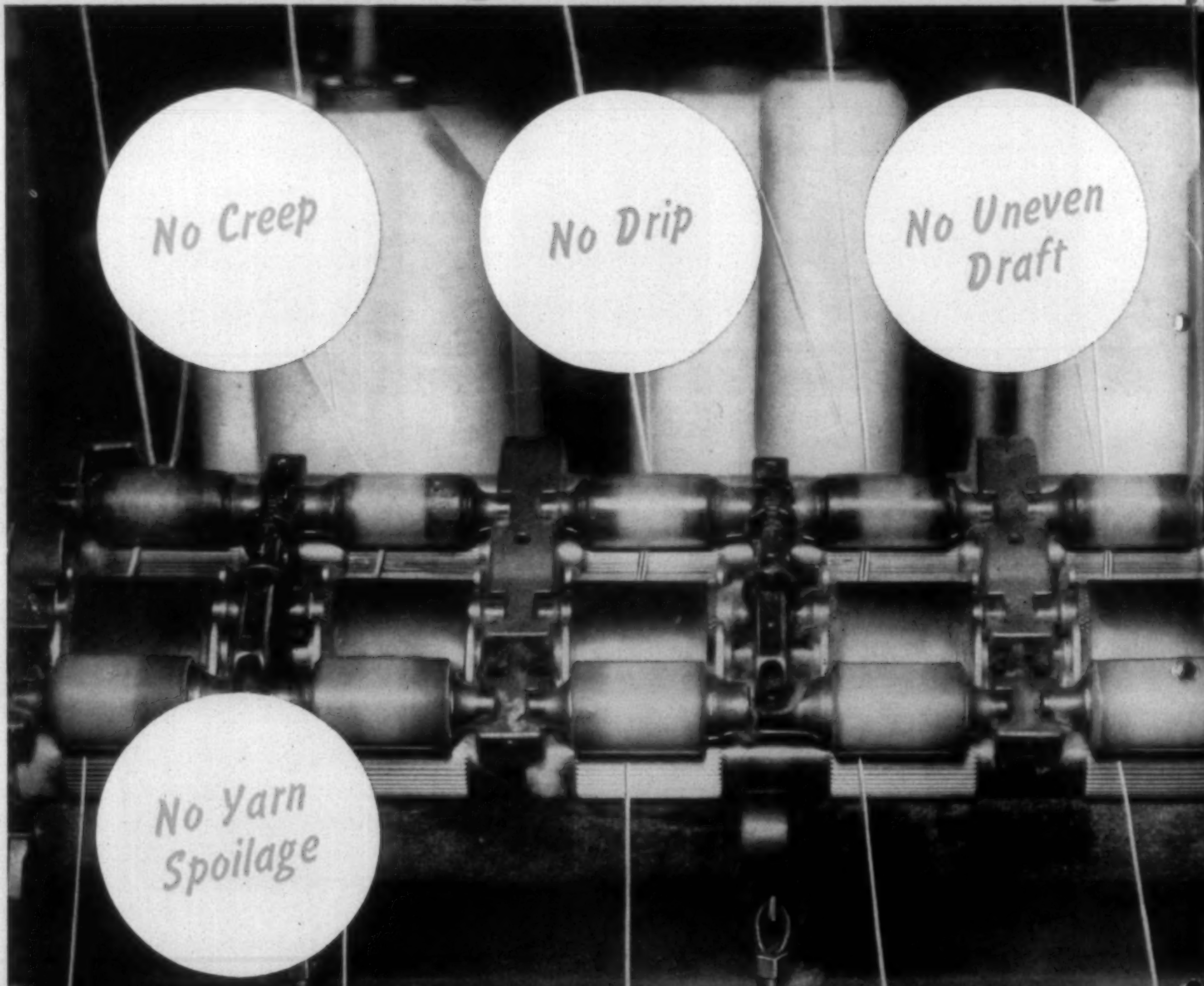
T. HOLT HAYWOOD, WINSTON-SALEM, NORTH CAROLINA

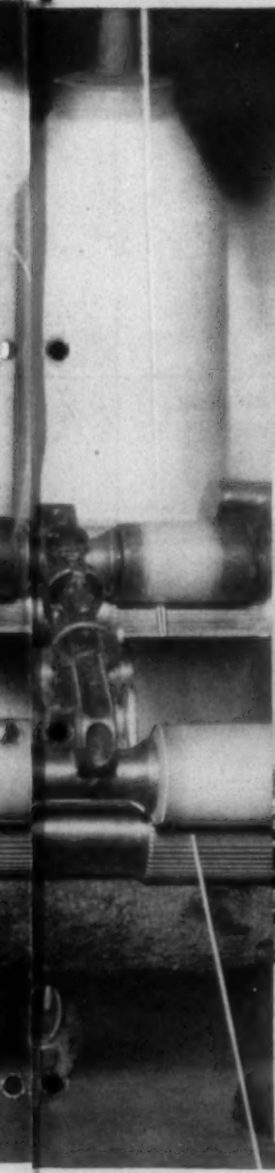
Sinclair NO-DRIP
4 Big Spinning



SINCLAIR

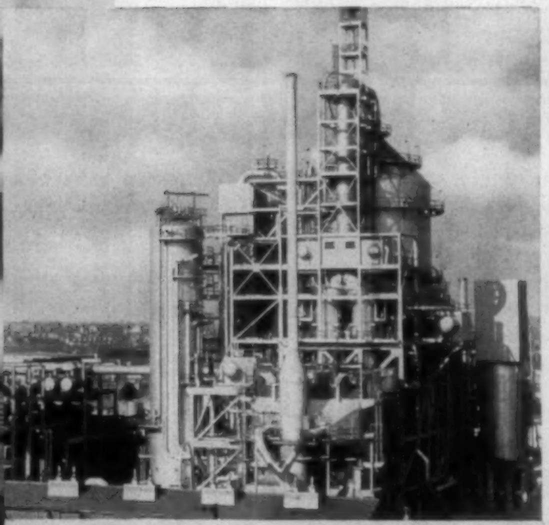
YOUR NEAREST SUPPLIER OF SINCLAIR PRODUCTS WILL GLADLY ARRANGE

LUBRICANT Solves Room Problems



In the spinning room, production may be retarded unless the top rolls are lubricated properly. The problem is to provide adequate lubrication while avoiding creeping of the lubricant or drip onto bottom rolls. A lubricant spreading onto the roll cots will spoil the covering and stain the yarn.

Sinclair NO-DRIP Lubricants have the correct combination of properties to provide desired performance. They reach all the parts where lubrication is needed—*but they do not stray away.*



New Fluid Catalytic Cracking Stills (like the one shown here) are helping to expand Sinclair's refinery output. Sinclair's great refineries are now turning out products at the rate of 150,000,000 gallons of lubricating oil yearly.

About 40% of all the Aircraft Engine Oil used by domestic Airlines in the U.S.A. is supplied by SINCLAIR. The same careful research that developed this high quality oil for the Airlines is put into NO-DRIP and other Sinclair Oils.

TEXTILE LUBRICANTS

FOR LUBRICATION COUNSEL, OR YOU MAY WRITE TO SINCLAIR REFINING COMPANY, 630 FIFTH AVE., NEW YORK 20, N. Y.

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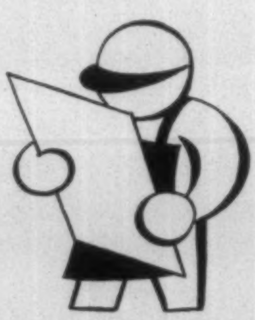

STALEY PRECISION-MADE STARCHES INSURE THESE THREE BENEFITS ...

① *Uniform* **SIZING**

② *Better* **WEAVABILITY**

③ *Improved* **FINISH**

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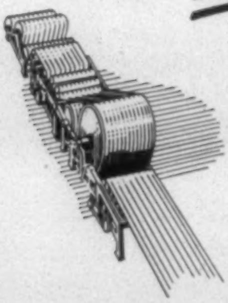

Why not let Staley's highly skilled laboratory technicians recommend without extra cost to you, correct starches for ALL your sizing requirements? Staley's complete line of modified and unmodified Corn Starches—guarded for uniformity by rigid scientific controls—is acclaimed by leading textile manufacturers for consistent high quality and dependability. Let Staley work with you in eliminating forever your sizing problems, just as this company has cooperated with others for more than a quarter of a century. Write Today for more details!

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STALEY "ECLIPSE" MILL* AND PEARL **STARCHES**
*THIN BOILING

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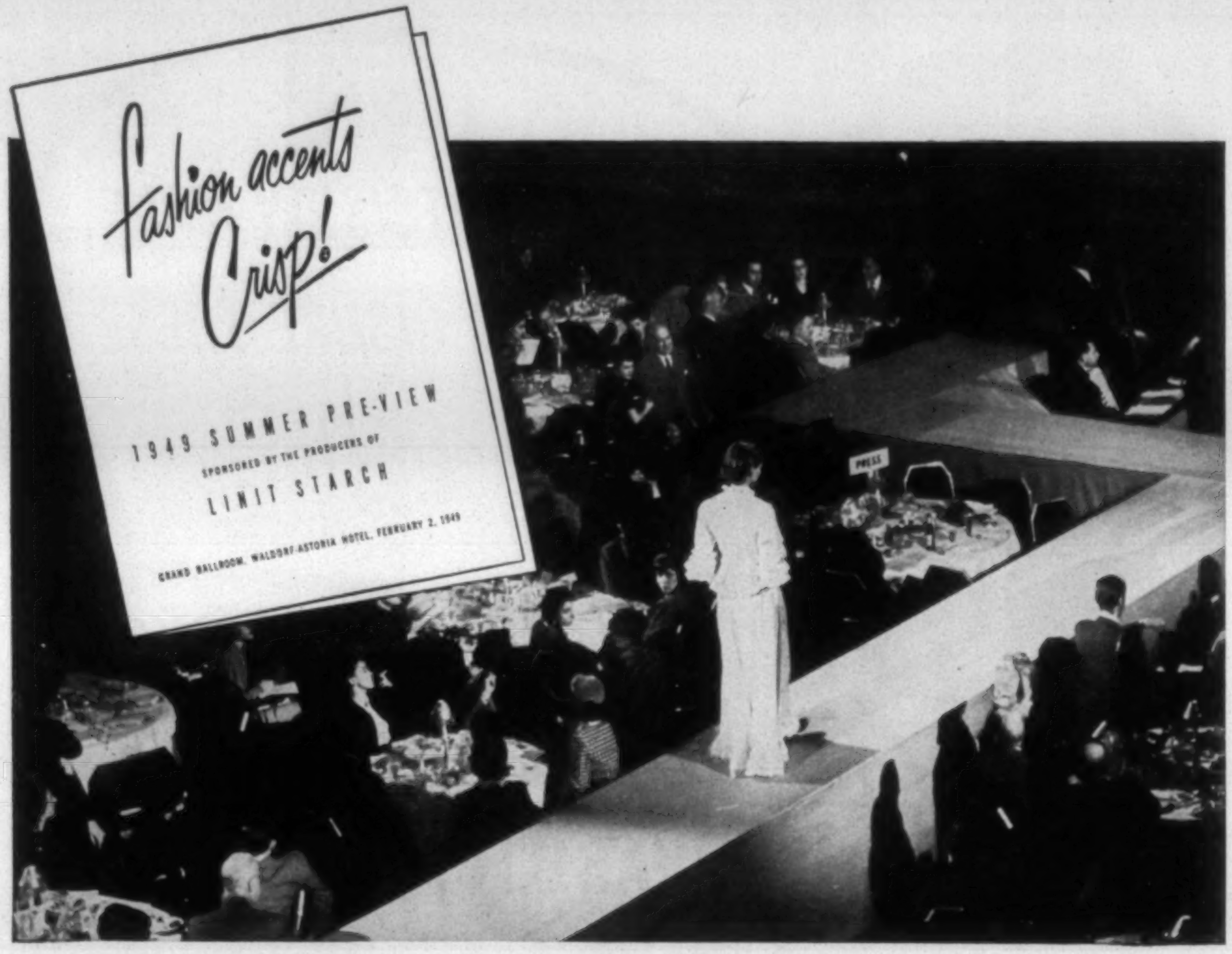


fashion accents Crisp!

1949 SUMMER PRE-VIEW
SPONSORED BY THE PRODUCERS OF
LINIT STARCH
GRAND BALLROOM, WALDORF-ASTORIA HOTEL, FEBRUARY 2, 1949

The Crisp Look continues making cotton promotion history!

"The crisp look of Starched Cottons"—launched on the stage of the Waldorf-Astoria's grand ballroom, February second . . .

Has leapt to the forefront of fashion trends on the air, in television, in the newsreels, in the nation's press.

Is already acknowledged editorially in leading women's magazines, in department store and dress-manufacturer advertising and promotion.

Will be the subject of major editorial features in two of the out-front general women's magazines . . . in four top fashion magazines . . . in a leading farm-home magazine . . . in a syndicated Sunday newspaper supplement . . . DURING APRIL AND MAY ALONE!

Is headlined every month in the LINIT* Starch 16-magazine, 34-million circulation . . . full-color . . . campaign.

Commends itself to the textile industry on the basis of self-interest for all-out support in advertising, store and dress-manufacturer promotion . . . ready-to-wear and piece goods alike!

*LINIT is a registered trade-mark of Corn Products Refining Company, N. Y.

Write today for free copy of brochure telling fast and factually about the rise of the cotton-selling Crisp Look, and how textile companies can help accelerate the trend. Address Dept. BCT

Corn Products Sales Co.

17 Battery Place
New York 4, N. Y.

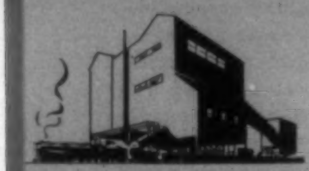
PRODUCERS OF STARCHES FOR THE TEXTILE INDUSTRY

The PITTSTON

COMPANY

Empire State Bldg., New York 1, N.Y.
McCormick Bldg., Chicago 4, Ill.

MINING SUBSIDIARIES



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CLINCHFIELD COAL CORP.
DANTE, VA.
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PHILIPPI, W. VA.
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BECKLEY, W. VA.
SHERIDAN-WYOMING COAL CO.
MONARCH, WYO.

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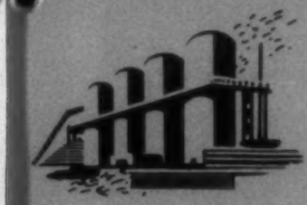

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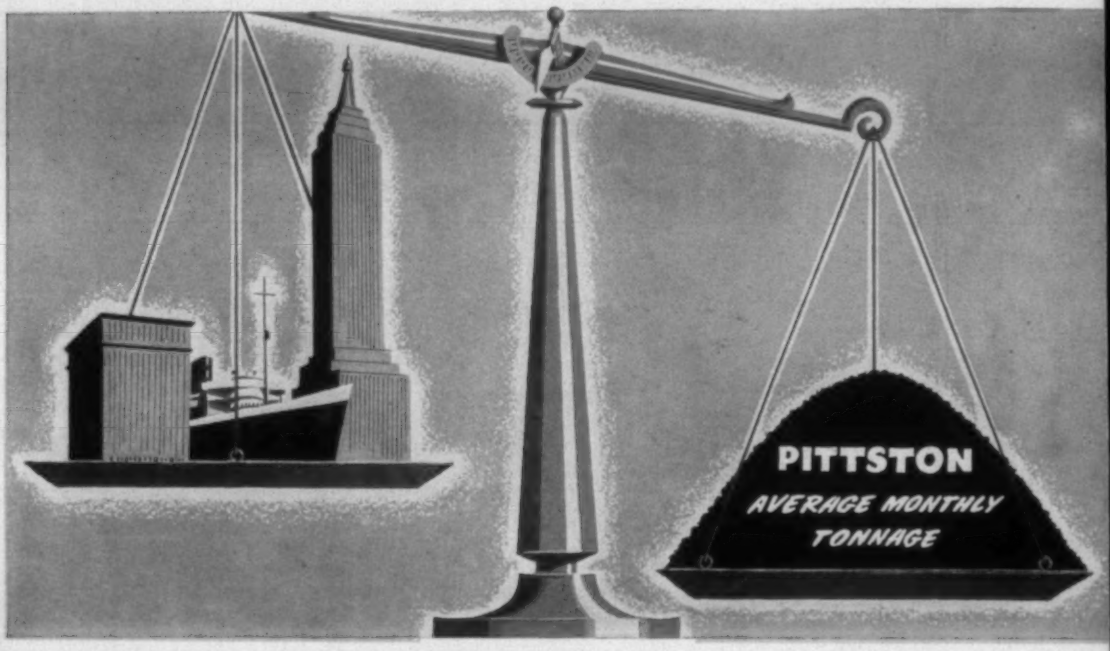
MONARCH, WYO.

Canadian Representative:
F. W. WEAVER COAL CO., LTD.
Montreal and Toronto, Canada

WEIGHTY FACTS!

The total weight of the average monthly tonnage of bituminous coal and anthracite sold by Pittston distributing companies is much greater than the combined weights of the Empire State Building, the Queen Mary and the McCormick Building in Chicago.



Why this big tonnage?...because —

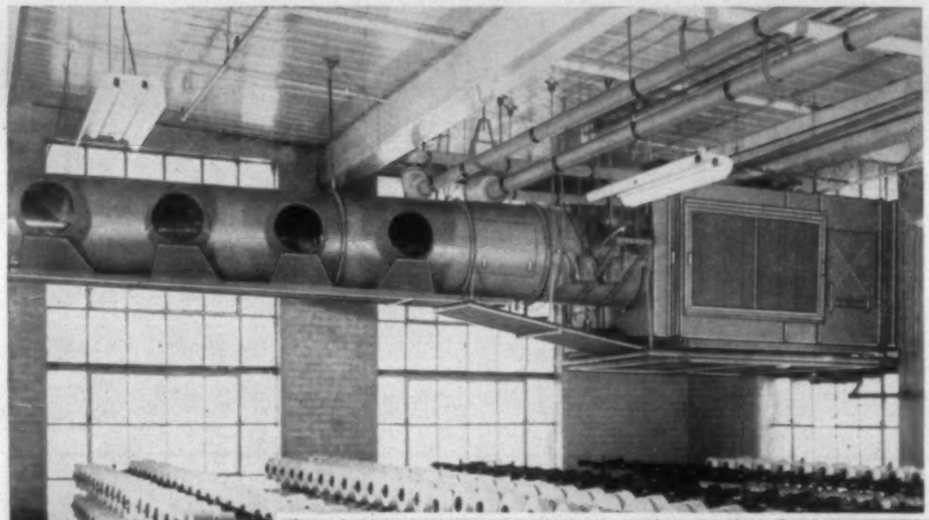
- The Pittston Company is the parent organization of seven bituminous coal subsidiaries — producing quality bituminous coals for *all your needs.*
- Pittston has recently completed a $14,000,000 expansion and improvement program, making possible larger and better production.
- Pittston subsidiary mining plants have been equipped with the latest in mechanical mining and cleaning devices.
- Pittston subsidiaries own outright, or have long term leases on thousands of acres of the finest coal lands in the country . . . enough coal reserves for many years.
- Pittston subsidiaries mine and distribute versatile coals . . . Clinchfield medium volatile coal, Compass Fairmont steam coal, Lillybrook low volatile bituminous, Davis-Piedmont smithing coal, and other well known trade-marked and trade-named fuels They are in demand for many widely divergent uses . . . for Retail Dealers, Public Utilities, Industrial Plants, By-Product Plants, Railroads, and for Stoker and Domestic use.
- Pittston makes available without charge a complete engineering service to help customers select the coal best suited to their needs.

Pittston's Sales Subsidiaries are always ready to serve customers' needs in all parts of the United States, South America and abroad.

APPROACH, to the Future!

Bahnson Air Conditioning

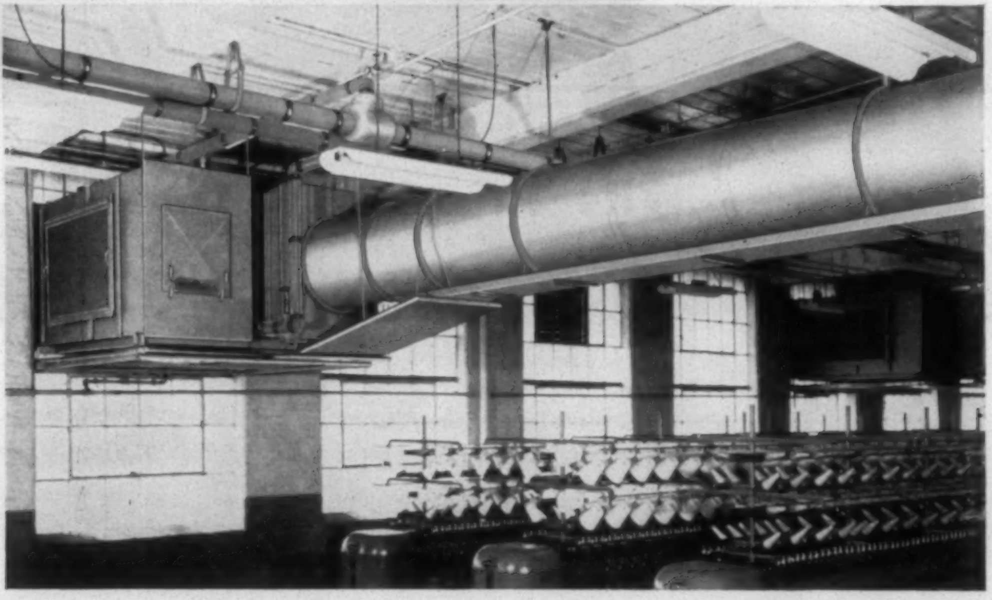
FOR YEAR 'ROUND TEMPERATURE and HUMIDITY CONTROL



The Bahnson Humiduct provides a basic unit system for evaporative cooling and controlled humidity to which refrigerative cooling, heating, air filtering in any combination can always be added. The Bahnson Humiduct unit is both flexible and economical, can be expanded or easily moved. No fixed, built-in installation or expensive apparatus housing required for air handling equipment.

↑ HUMIDUCT INSTALLATION TO PROVIDE EVAPORATIVE COOLING AND HUMIDITY CONTROL.

HUMIDUCT INSTALLATION PROVIDING HUMIDITY CONTROL WITH REFRIGERATIVE COOLING. ⟶



Mills, "looking to the future," can approach the problem of eventual complete air-conditioning by degrees—starting with the Bahnson Humiduct basic unit as now functioning in many important installations.

Bahnson System
AIR CONDITIONING ENGINEERS

THE BAHNSON COMPANY
WINSTON-SALEM, N. C.

S. C. STIMSON
A-3 VIRGINIAN APTS.
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LOS ANGELES 13, CAL.

Rapidogens® for printing
fast colors on cotton, rayon and linen

brilliant colors outstanding for clarity and depth.

extensive color range many important shades are exclusively GDC.

fastness excellent fastness to washing—very good fastness to light.

powders and solutions both forms are available.

application develop rapidly in acid ageing—many can be developed in neutral ageing.

versatility can be printed alongside Indanthrenes and Algosols.

economy combine quality with ease of application.

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NEW *Textilume* FLUORESCENT FIXTURE DEFIES CORROSION

It's Porcelain-Sealed, INSIDE AND OUT

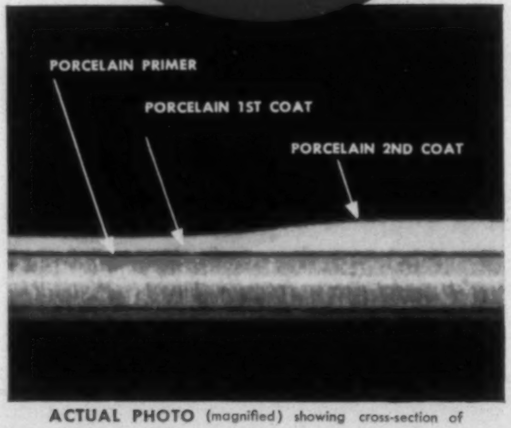
The new Wheeler *Textilume* is a modern fluorescent unit designed specifically for textile mills. In addition to its high reflection factor, it offers long, trouble-free service under the most severe moisture and humidity conditions.

Every square inch of its one-piece welded body is sealed with smooth, uniformly-applied vitreous porcelain enamel . . . no exposed joints or seams to catch water and cause rust. Its suspension flanges are cadmium plated and gasketed.

All parts of the new *Textilume* are readily accessible. New "Flex-Loc" safety lampholders are the latest type . . . automatically self-adjusting to variation in lamp length.

For long, rust-free life . . . lowest cost in the long run . . . investigate this new creation of "Skilled Lighting". Get complete specifications. Compare its construction details. Write *Wheeler Reflector Co., 275 Congress St., Boston 10, Mass.*

Distributed Exclusively Through Electrical Wholesalers



ACTUAL PHOTO (magnified) showing cross-section of steel sheet with 1st, 2nd and 3rd Vitreous Porcelain-Enamel coatings used on Wheeler Units.

OTHER "SKILLED LIGHTING" FIXTURES

There's a Wheeler incandescent or Fluorescent fixture to meet every mill requirement.

RLM SOLID NECK INCANDESCENT REFLECTOR (*at left*) provides maximum lighting efficiency indoors or out. Ruggedly built. Vitreous enamel only. 75 to 1500 watts.

***Wheeler* REFLECTORS**

SKILLED LIGHTING

MADE BY SPECIALISTS IN LIGHTING EQUIPMENT SINCE 1881

For less bolster wear, smoother running spindles,

Gulf Lubrication Engineers recommend

GULFGEM OIL

Superrefined by Gulf's exclusive Alchlor Process, Gulfgem Oil has unmatched resistance to oxidation—does not form harmful sludge deposits. Thus Gulfgem lasts longer in spindle service—users report that it outlasts other spindle oils by as much as four to five times.

With good operating practice Gulfgem Oil eliminates the need for periodic cleaning of bolsters. Clean spindles and bolsters means substantial savings in power costs!

Gulfgem Oil has outstanding lubricating qualities—helps insure less wear, fewer spindle and bolster renewals, and freedom from spindle wobble.

Call in a Gulf Lubrication Engineer today and ask him to demonstrate the many advantages of Gulfgem Oil. This superior spindle oil is available in four grades with the proper range of viscosities for every type of high speed spindle. Write, wire, or phone your nearest Gulf office.

Gulf Oil Corporation · Gulf Refining Company
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GULF
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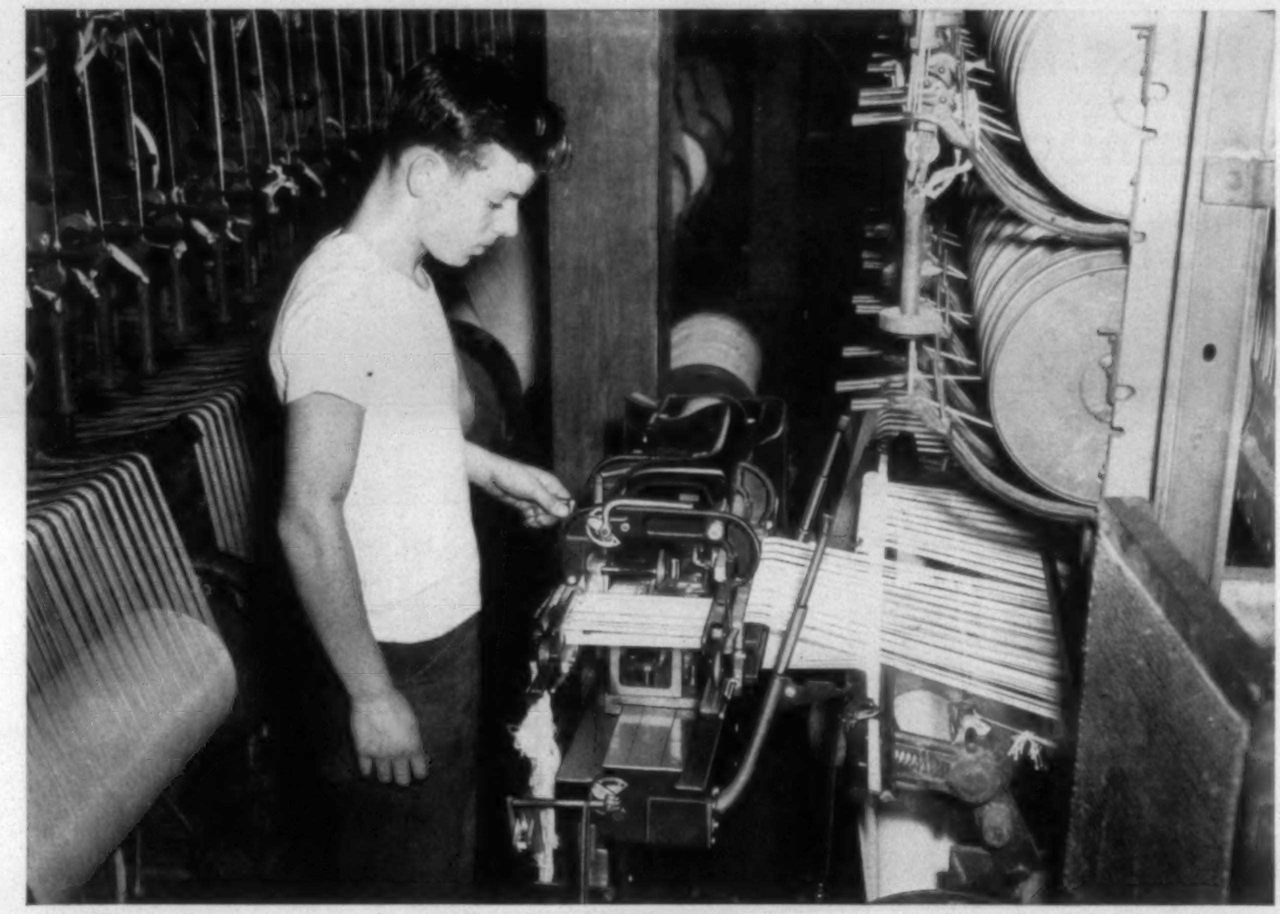
LUBRICATION



PHOTOGRAPHED AT J. S. MASON & SONS, INC., WESTBORO, MASS.

BARBER-COLMAN PORTABLE WARP TYING MACHINE SHOWS SAVINGS ON RIBBON LOOMS IN THIS WAY...

The warp on these ribbon looms is supplied partly by the individual spools above and partly by the large beams below. With this improved arrangement, the Barber-Colman *Portable* Warp Tying Machine can then be used for replenishing the lower beams and is able to effect a worthwhile saving. One weaver can now tend four of these looms, instead of only two as formerly. Each beam is tied in two sections or bites with the Barber-Colman machine. Each section or bite is converged during the machine-loading process to increase the sley. Even if small gaps are left, as shown in the picture above, the knotter mechanism will travel ahead until the sensitive selector needles pick up the proper pair of ends from the old and new warps. Barber-Colman Portable Warp Tying Machines are easy to operate, adaptable to a wide variety of conditions (as witness the somewhat unusual application shown here), are accurate and reliable, and have shown very low maintenance costs. Your Barber-Colman representative is available to discuss with you any possible applications for the machine in your mill.

DATA FROM THE MILL

C & K SPACE LOOMS
Narrow Fabrics Wide Beam Set-Up
Zipper Tape
MODEL "LC"
PORTABLE WARP TYING MACHINE
One Operator

4 Beams End to End per Loom
651 Ends per Beam — 18 sley
30s/2 Cotton
TYING-IN TIME — 40 MIN.

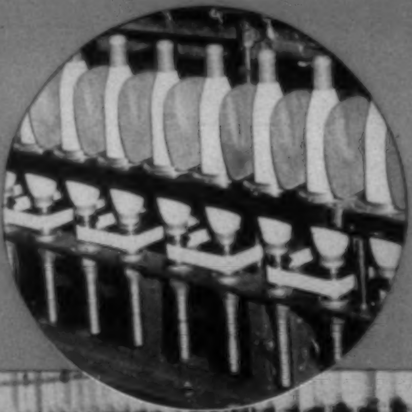
Use of Portable Warp Tying Machine and wide beams has enabled mill to increase production from 2 to 4 looms per weaver.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS • U. S. A.
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

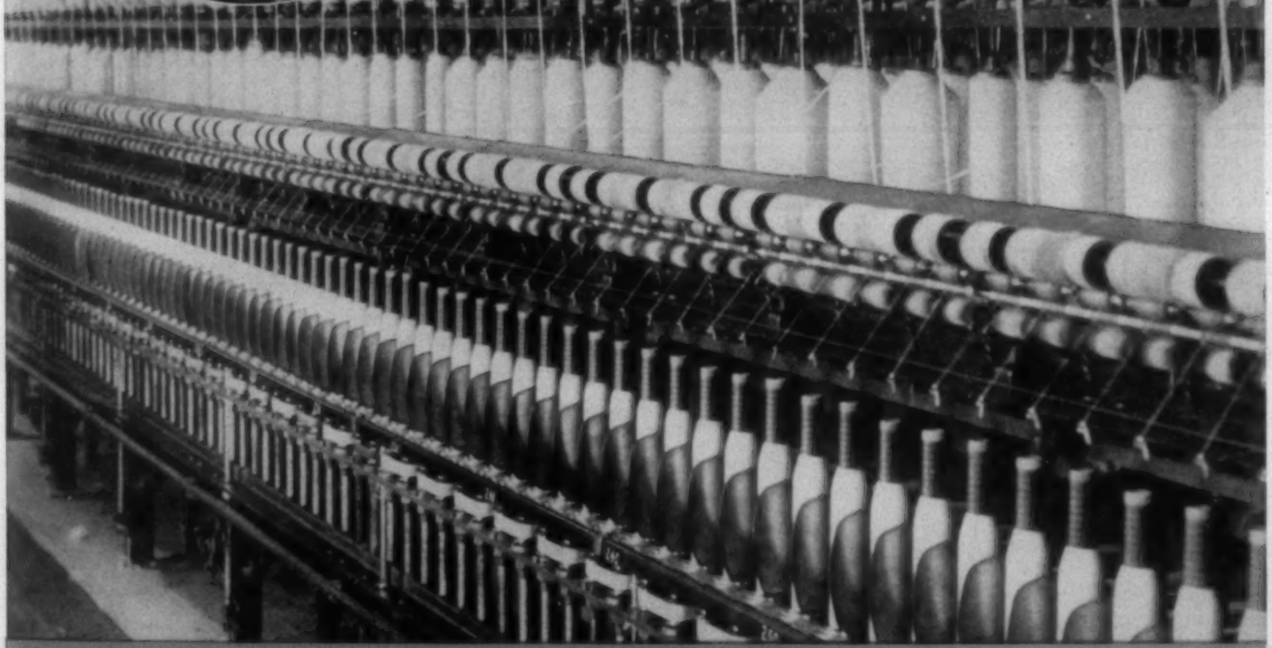
Marquette ROLLER BEARING SPINDLES *with* FULL-FLOATING FOOTSTEP BEARING

For Cotton, Rayon, Nylon, Wool, Worsted



This cotton mill has 20,000 Marquette Roller Bearing Spindles equipped for 12 in. paper tubes holding 10.8 oz. of yarn. They replaced plain bearing spindles equipped for 10 in. tubes holding 7 oz. of yarn. Increase in tube length resulted in a yarn gain of 54%. Power consumption was reduced 13%.

Increase your production and reduce your costs by modernizing your old frames with Marquette Roller Bearing Spindles, or specify them on new frames. They operate efficiently at high speeds with large packages, and require less power. For a test installation, contact our home office or one of our representatives.



PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

The Marquette METAL PRODUCTS CO.

CLEVELAND 10, OHIO

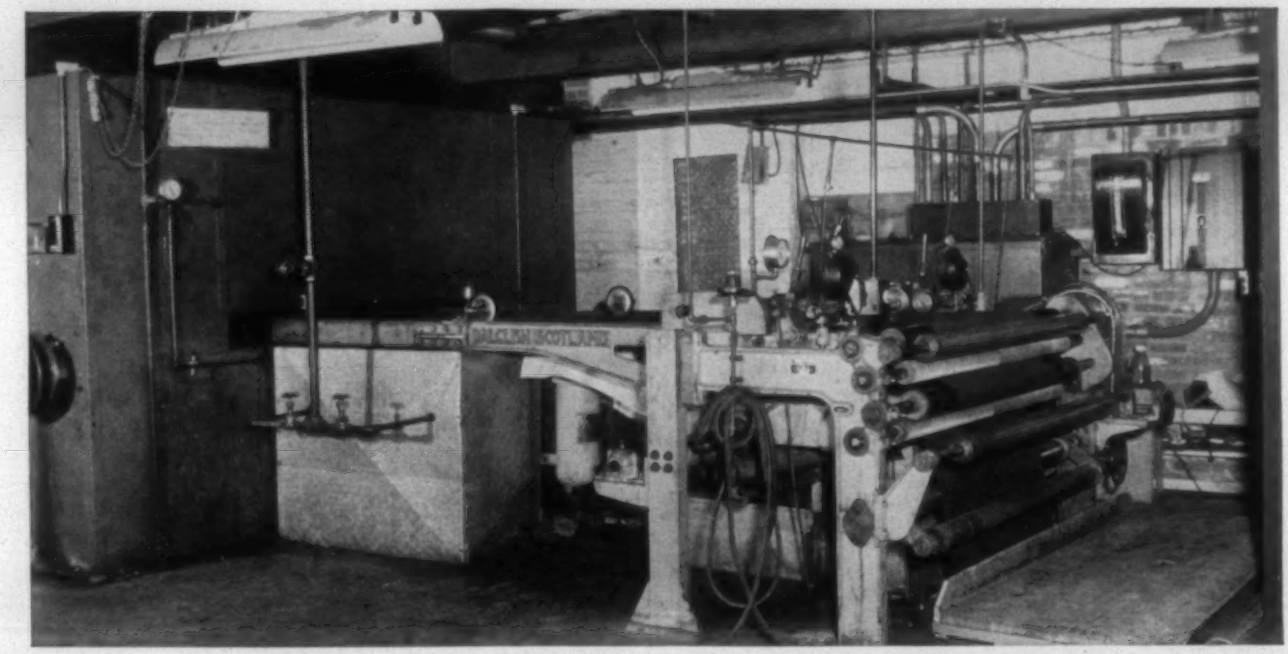
SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSES
FUEL OIL INJECTORS • PRECISION PARTS AND ASSEMBLIES

BYRD MILLER, WOODSIDE BLDG., GREENVILLE, S. C. • C. H. WHITE, 1229 PAMLICO DRIVE, GREENSBORO, N. C.
WILLIAM P. RUSSELL, BOX 778, ATLANTA, GA. • JOHN J. HALLISSY, 58 LIVINGSTON AVE., LOWELL, MASS.
IAN M. HALDANE & COMPANY, P. O. BOX 54, LONDON, ONT.

DALGLISH PIN TENTER MEETS DEMAND

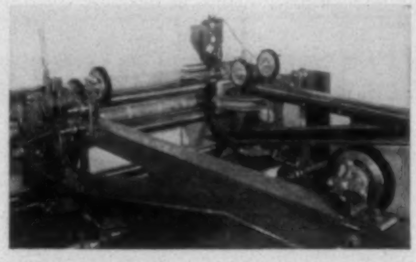
for Quality Finishing at High Speed



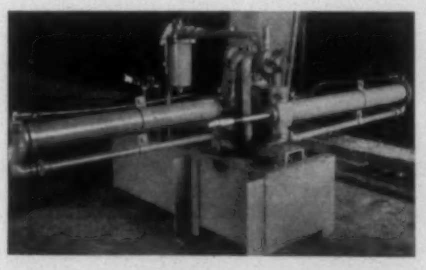
Textile men have long sought a means for finishing fabrics that would provide the full round hand of custom finished fabrics—at high speed to meet production demands. As recent installations of the Dalglish pin tenter are checked it becomes increasingly apparent that this equipment is answering that long standing need.

Originally developed in Scotland by John Dalglish & Sons, and now manufactured and sold in America under license, by Proctor & Schwartz, this efficient equipment provides an assured means for high output and quality control in fabric finishing... at high speed.

The quality and "hand" of the finished goods is a direct result of the perfected overfeeding device, combined other mechanical features and a balanced, high speed drying system. Especially applicable for use in finishing resin treated fabrics, the drying system is so designed that resin migration is prevented—further assurance of quality finishing. Because of control possible with this system, results established on one fabric can be reproduced on the next run, without question. Write for complete details.



Close up shows overfeeding gear of micrometer accuracy, which contributes largely to quality finishing.



Hydraulic guiding system of instantaneous sensitivity—guiding to an accuracy of $\frac{1}{16}$" to 100 yards per minute.

PROCTOR & SCHWARTZ · INC *679 Tabor Road* **PHILADELPHIA 20 · PA ·**

Tip-Offs that **Pay Off**

The Blade-of-Grass Test

One of the greatest outfielders in the history of baseball used to throw a blade of grass into the air every time he went to his position. Why? Easy! . . . he was smart. Winds in a ball park are tricky and to test the wind with a blade of grass meant catching balls, winning games, a pennant, the series, and *more dough* . . . a subject dear to a ballplayer's heart.

The Who's-Listening-To-What Test

"How's your Hooper" is the popular greeting with radio entertainers. That is, it's popular if the Hooper is good . . . for the Hooper is a test of a program's popularity determined by thousands of phone calls throughout the day asking people in homes "What program are you listening to?" Naturally, a good Hooper pays off.

The Down-To-Earth Test

Warning! Before you buy that little farm . . . that place to get away from it all . . . be sure to have the soil thoroughly tested. It will save you plenty of headaches.

The How-Many-Feet-in-a-Gallon Test

Here's the tip-off that pays off on paints. When considering paints for the interior of your plant, *forget about the cost per gallon.* It doesn't mean a thing. The real factors to consider are the number of square feet of proper coverage you get per gallon and . . . because labor represents 80% of your total cost . . . *the time involved for painting.*

See for yourself. Compare a gallon of any paint you want with a gallon of Barreled Sunlight. Thin them both according to directions. Put them on a wall. Check the number of square feet each covers. Check the length of painting time for each. Note the difference in appearance after drying. You'll be thoroughly convinced that Barreled Sunlight . . . even though it costs more per gallon . . . will give you a better-looking, long-lasting paint job *for less money* than any other paint.

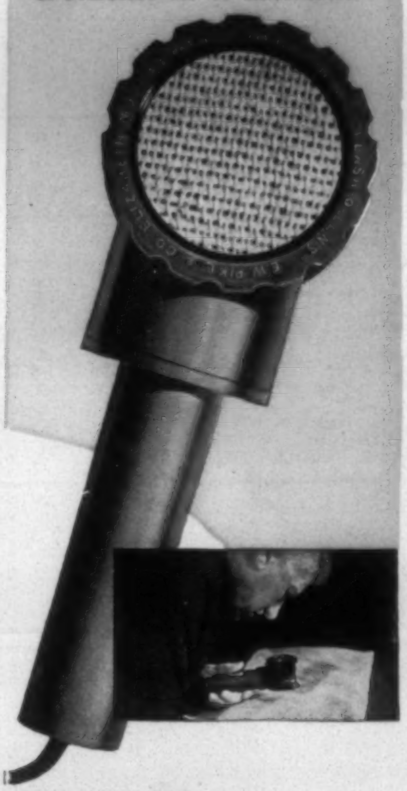
It will pay you to talk with your nearest Barreled Sunlight representative. Write, and he'll call.

U. S. GUTTA PERCHA PAINT COMPANY
5-F Dudley St., Providence, R. I.

Barreled Sunlight
Paints

In whitest white or clean, clear, pleasing colors, there's a Barreled Sunlight Paint for every job

ACCURATE
Textile Inspection
with
FLASH-O-LENS
THE ILLUMINATED MAGNIFIER
SPOTLIGHTS AS IT MAGNIFIES



EXCELLENT FOR

- counting picks
- laying out textile patterns
- matching colors
- testing stitch length and width on knitted fabrics
- all types of textile inspection

Portable Battery and Electric Models Available with 5, 7, 20, or 40 Power Lenses.

Detachable Textile Counting Plate for use with 5 power models quickly gives 1", ½", ¼", and ⅛" measurements.

5 Power Battery Model with textile plate	5 Power Electric Model with textile plate
$11.65	$13.65

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E. W. PIKE & CO.
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Please send me a free copy of your catalog on Flash-O-Lens Illuminated Magnifiers for Textile Inspection.

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WHAT OTHERS ARE SAYING

Can Comfort Be Legislated?

MUCH as all of us are inclined to seek bodily comfort, I question whether it can be legislated, any more than morals can.

The trouble with so illusive a thing as bodily comfort is that it is not too easy to measure, define or standardize. It varies with the individual, who in turn is quite apt to have varying and various ideas and moods himself. It varies with what the thermometer discloses and, to a much less extent, with the prevailing relative humidity. It varies with the amount and the nature of the clothes we happen to have on. It varies with what we are doing; bodily effort. It varies with the rate of air circulation. And if that is not enough, the attitude we have concerning it varies with the seasons. We want a different kind of comfort in Summer from that which we find desirable in Winter.

Let us do a little poking around on this subject. Take a look at the thermometer. It reads say 98° on a Summer's day in a certain partially humidified spinning room. Relative humidity is 35 per cent, "effective temperature" is 84°.

Now let us increase the amount of humidification in order to increase the relative humidity and at the same time to provide more evaporative cooling. Bring the relative up to the desired 65 per cent in this way, with adequate ventilation, and room temperature will drop ten degrees, to 88°. Effective temperature thus drops to 82°. The room feels much cooler.

If you want to go still further with humidification and more ventilation, you could reduce temperature to say 86°. Effective temperature would then become 81°. Chances are that would be cooler than outdoors. We'd call the results excellent. And no refrigeration would be needed in this particular instance.

So, at least a way of measuring the feeling of warmth has been studied and adopted. And, as noted, has been defined as "effective temperature;" that is, the one we feel. Now here, among other things, is the rub. Suppose in Summer the effective temperature in the place where we work is higher than that of outside. It is a relief to get out of doors. On the other hand, suppose the effective temperature where we work is lower in Summer than it is outside, we hate to leave. What's more, the whole family will want to move in.

There is another rub. Summer cooling, carried too far, may be worse for the individual than most run-of-the-mill temperature conditions. Humans cannot profit by comfort conditions of the job too much out of balance with those of the off-duty occupations. Let temperatures rise to the mid-90s outdoors, and if we maintain five or ten degrees less indoors, that would be enough of a relief; better than if the drop indoors were so great that people would get a heat stroke when they went home.

Suppose then it is suggested that comfort be legislated for textile mills. What shall be the approach? What standard shall we set up? Shall we "comfortize" for Tom—or for Dick—or for Mary? And if for one, shall we make them all dress in the same weight and character of clothing? Shall we comfortize to suit Tom's work, which is loom fixing, or to Mary's, which is spinning and ordinarily less active? Shall we adjust the whole plant to suit weave room operations and so gum up the spinning? Or shall we adjust the whole plant to spinning room operations and make weaving impossible?

Should we remember that part at least of an operative's comfort may possibly proceed from the content of the pay envelope; and that while textile air conditioning promotes comfort, it should not, and the proper kind does not, penalize the operative? On the contrary, along with physical benefit, a financial one is his as well.

Much as we believe in genuine (not phoney) air conditioning; much as we believe in its benefits to owners and operatives alike; much as we have preached its advantages for more years than we care to admit, we sincerely hope its more general adoption by and in the textile industry will not be brought about by legislative compulsion.

We are not versed in the law, but, first, it does not seem to be either legal

If you want –

greater breaking strength . . .

lower sizing costs . . .

better weave-room results . . .

then you'll want

HOUGHTO-SIZE CW

When you find a warp size softener that gives you an increase in breaking strength as much as 10% greater than that obtained with your former size formulation . . .

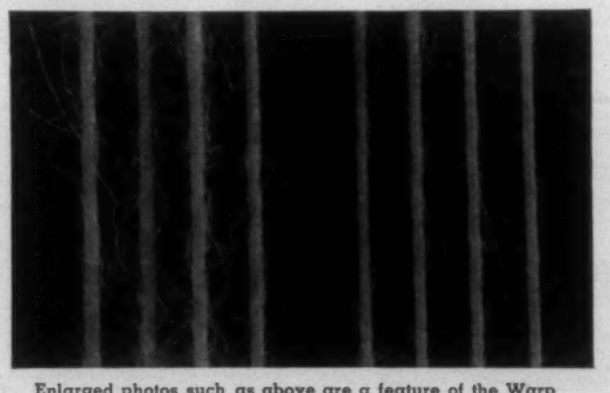
And when you do this—as many mills are now doing—with *one-third* less softener in the size kettle . . .

And further, when the new softener contains no animal fat, therefore is lower and more stable in price . . .

And lastly, when the warps thus sized are found to weave better and result in increased production . . .

Then you're going to be mighty glad you learned about HOUGHTO-SIZE CW, Houghton's sizing compound, and you're going to keep using it. For full details and test, write

E. F. HOUGHTON & CO.
Philadelphia or Charlotte



Enlarged photos such as above are a feature of the Warp Size Check-up Test, exclusive with Houghton. They show vividly what various size formulae do to improve fiber lay.

INSTALL Sanitary Bradley Multi-Stall Showers

FOR GREATER CLEANLINESS

There are no dirt collecting corners, no spaces or crevices to become unsanitary when you complete your washing facilities with Bradley Multi-Stall Showers.

One Bradley 5-Stall Unit with only three supply lines, performs the service of five conventional "single-stall" showers requiring 15 plumbing connections. This feature plus the Bradley *central mixing* chamber make possible considerable savings in hot water expenses and *total* water consumption.

Close-up view of receptor for Bradley Showers. They minimize splashing between compartments and have no corners or dark areas to gather contaminating, odorous dirt.

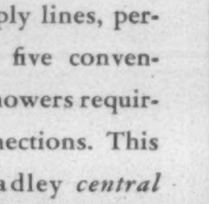
Easy Installation

Bradley 3- and 5-stall Shower Units come partially assembled for quick, easy installation on any kind of floor including wood. For an economical shower installation and for sanitary showers that will stay clean with minimum upkeep, specify Bradley Multi-Stall. BRADLEY WASHFOUNTAIN CO., 2367 W. Michigan Street, Milwaukee 1, Wis.

BRADLEY multi-stall showers

For new ideas on modern washroom arrangements, see illustrated Booklet 4701. Copy on request.

Distributed Through Plumbing Wholesalers



or ethical to single out one industry for such compulsion, when there are others where man-made comfort conditions seem fully as compelling. Second, a rush program under the necessity of meeting certain deadline dates would be an invitation to the incompetent, the inexperienced, and the unstable to "come and get it," as the saying is. For, third, there does not exist at present sufficient engineering, manufacturing, and installing capacity to deal with such a situation on such terms.

Genuine air conditioning admittedly invites a sizable capital outlay. A textile mill formerly could be built and equipped for what now in some cases might be involved in the purchase of its air conditioning. There are plenty of executives who are not ready to make this sort of an outlay, even though in the long run (or maybe in a shorter run) it might prove to be an investment; and since they are the ones in charge of their mill's finances and future, who are we, or who are legislators for that matter, to tell them what they must do—or how soon?

Textiles have changed. Its machinery, if not changed (and much has been) has been improved. Processes have changed. So too have policies and attitudes. This evolution may have been regarded as slow. On the other hand, it has been pretty steady. Why, all of a sudden, should legislative prodding seem so necessary in an industry that prods itself with its own competitive effort? — *Parks' Parables,* Parks-Cramer Co.

Sweating It Out!

"X MILLS Closed Down! Thousands Out of Work." Newspaper headlines similar to this are beginning to appear in a good many places. Think what such headlines would mean in our own local newspapers!

The unrelenting laws of competition will allow only the fittest to survive. This means that we must economize—we must produce goods of the highest quality—we must redouble our efforts to reduce seconds and waste. When rations are short, it's time to tighten up our belt. That time is here—won't you do your part?—*Graniteville Bulletin,* Graniteville (S. C.) Co.

Rayon Reports

pared Monthly by American Viscose Corporation, New York, N.Y.
JUNE, 1949

Avisco Operates Complete Development Plant to Improve Rayon Staple

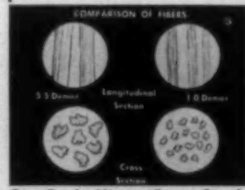
As part of its broad program of research, American Viscose Corporation operates a Staple Development plant at Nitro, West Virginia. Its dual purpose is to serve as a proving ground for the practical development of manufacturing methods as well as to develop new products.

In performing experimental work Staple Development can duplicate both laboratory and plant processes. Because virtually every part of the rayon staple process can be altered at will, it is possible to test production through various stages starting with small batches of spinning solution and gradually working up to commercial scale production. At various points during experiments Staple Development makes use of data which may come from Chemical Research, Textile Research or Fabric Development.

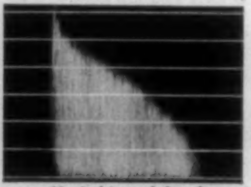
The Staple Development plant makes it possible, within limits, to give the textile industry the type of rayon staple it requires. Trial lots of new products are often made available to customers who may experiment with them on their own machines and make them into garments for wear tests, marketing or style research. Its work has helped make rayon staple the fastest growing product in the rayon industry.

Detailed information on the Avisco Staple Development plant has been compiled in booklet form. Copies are available on request.

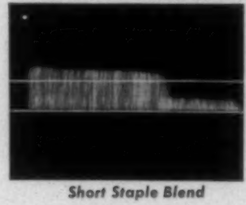
RESULTS OF THE WORK OF AVISCO STAPLE DEVELOPMENT



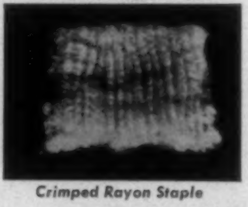
One-Denier Viscose Rayon Staple



Varied Length Staple



Short Staple Blend



Crimped Rayon Staple

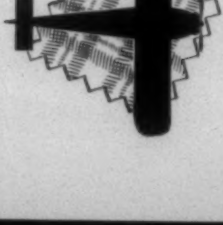
Avisco Releases Training Film for Retail Salespeople

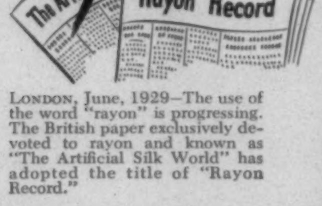
"Your Attitude is Showing," an 11-minute color and sound film strip addressed to retail salespeople has just been released by American Viscose Corporation. The film strip dramatizes how salespeople can improve sales by giving positive, concrete answers to the five questions most customers ask about fabrics. Based on a survey by New York University School of Retailing, these questions are: Is it washable? Will it shrink? How will it iron? Will it wear well? Will it soil easily? The film strip is part of a sales training unit including leaflets, sound record, user's guide. The unit is being made available to retailers at cost.

RAYON 20 YEARS AGO

NEW YORK, June, 1929 — The second edition of the "Story of Rayon" published by the Viscose Company is now ready for distribution.

NEW YORK, June, 1929 — The promise of a big demand for artistic and durable fabrics for upholstering airplane interiors has spurred rayon producers to much constructive experimentation.





LONDON, June, 1929—The use of the word "rayon" is progressing. The British paper exclusively devoted to rayon and known as "The Artificial Silk World" has adopted the title of "Rayon Record."

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 **FIBER RESEARCH**
2 **FABRIC DESIGN**
3 **FABRIC PRODUCTION**
4 **FABRIC FINISHING**

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

More Proof

that

DAYCO

ROLL COVERINGS

produce more uniform yarn with fewer lap ups and ends down

Test No. 38

A North Carolina mill was feed delivering 23's filling from two ends of 3.50 hank (35% aralac and 65% viscose mix). 256 spindles, equipped with Dayco Roll Coverings, were tested against 256 spindles equipped with another type of roll covering. During this 1000-spindle hour test, the Daycos had 28.6% less unclassified ends down, and no lap ups. The others had many lap ups.

Test No. 35

In another North Carolina mill, Dayco Roll Coverings were tested against two other types of roll coverings for 1000-spindle hours. On ends down the Daycos performed 27.7% better than one and 34.4% better than the other. Also, the Daycos had less lap ups than either of the other two.

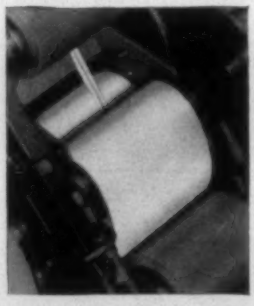
. . . and they're ESPECIALLY ENGINEERED FOR LONG LIFE!

Thru Dayco textile know-how, Dayco Roll Coverings are created to perform better . . . last longer. The surface is made of special synthetic rubber—man-made and controlled for this specific job. Daycos always have exactly the right coefficient of friction and built-in cushion to give you more uniform yarn. Special types for revolving and flat clearers.

8 MORE REASONS WHY YOU SHOULD USE DAYCOS

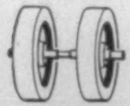
1. Reduce number of ends down. Minimize lapping up.
2. Equally efficient for natural and synthetic fibers.
3. Permit changing yarn numbers without rebuffing.
4. Oilproof. Won't swell.
5. Static free. Reduce eyebrowing.
6. Not affected by humidity or temperature changes.
7. No grooving. Long life.
8. Easy to apply. One-piece tubular construction.

DAYCO LONG DRAFT APRONS



More uniform yarn with cotton, wool or synthetic fibers is the big reason more mills are changing to Dayco Long Draft Aprons. These Daycos won't stretch, groove, split, crack, break or curl. They won't flip off or pick up lint. Nondirectional, their white drafting surface helps keep yarn clean. *The Dayton Rubber Company, Textile Division, Woodside Building, Greenville, South Carolina.*

MORE DAYCO SPINNING ROOM PRODUCTS

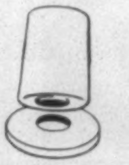


Woolen and Worsted Cots. More uniform spinning, less matching-up. Give years of service.

Slasher Rolls. Insure more uniform sizing. Last longer. Not affected by starch.

Rub Aprons. Last longer. Stay put. Insure more uniform rubbing.

Condenser Tape. No stretch. Won't pick up lint. Less tendency to twist.

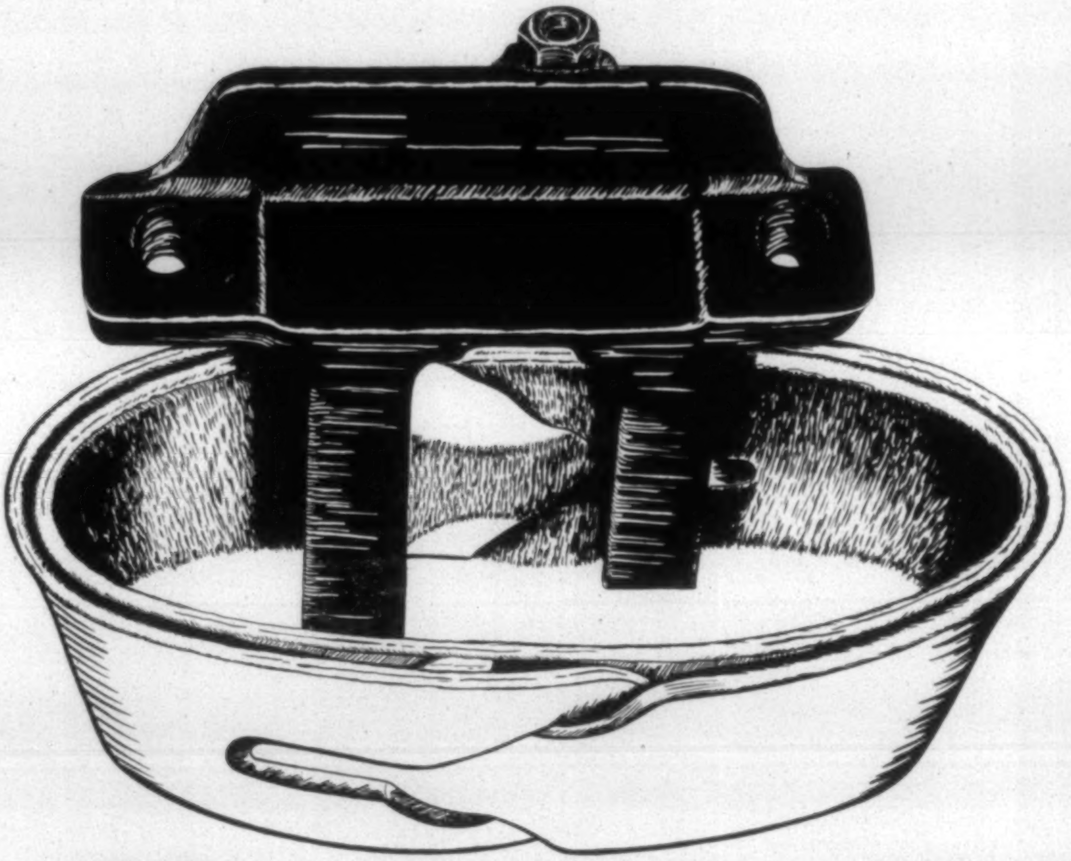


Sponge Cone Pads. Extra resiliency protects yarn.

Dayco also makes: Vibration dampeners. Friction driving discs. Roll coverings for drawing and roving frames. Drafting mechanisms, including cotton, wool, glass, jute, cut staple, hair and other fibers.

Dayton Rubber

SLIP-NOT PROUDLY PRESENTS TW



Nuform Endless

KWIK-LOCK

Installation time less than 2 minutes

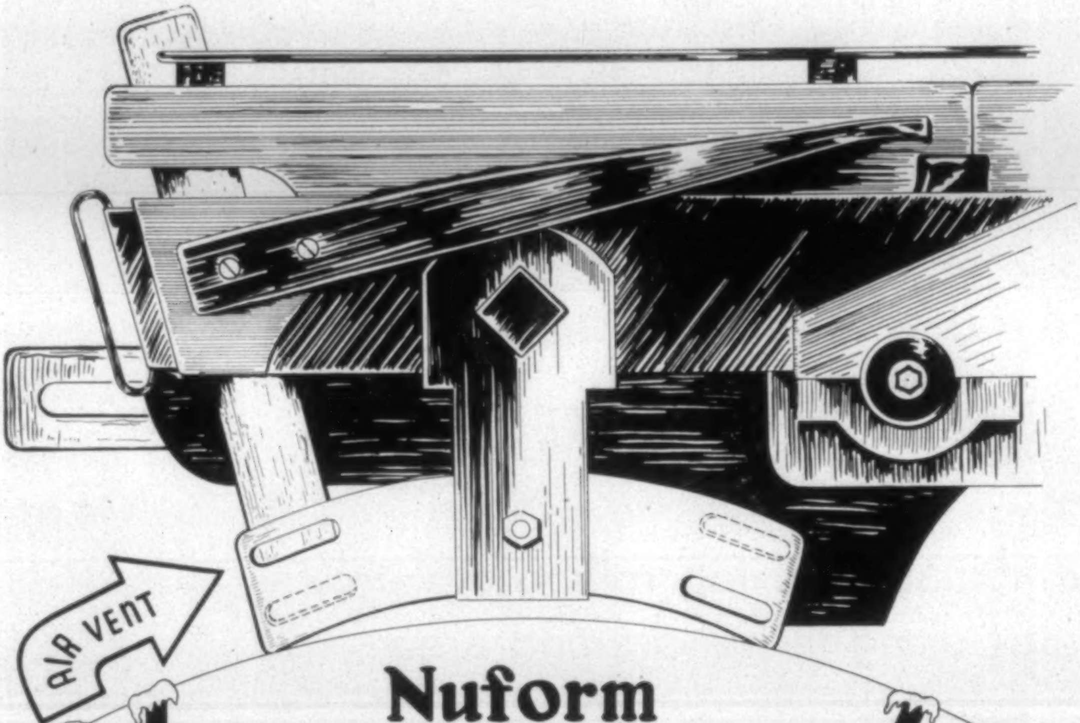
The new NUFORM Endless Check Strap—*Kwik-locK*—saves installation time, installation cost and reduces lost loom time. It is a check strap that *really checks!*

This is the answer to endless check strap requirements.

Patent No. 2347539

SLIP-NOT BELTING C

O REVOLUTIONARY CHECK STRAPS



Nuform

KOOLCHECK

THE AIR-CONDITIONED CHECK-STRAP

The heat generated on high speed looms is harder on check straps, pickers and shuttles than the actual wear. Here is a NUFORM Check Strap that is VENTILATED so that it will carry away the heat and prolong the life of your strap.

This is a new improved, longer life NUFORM Check Strap.

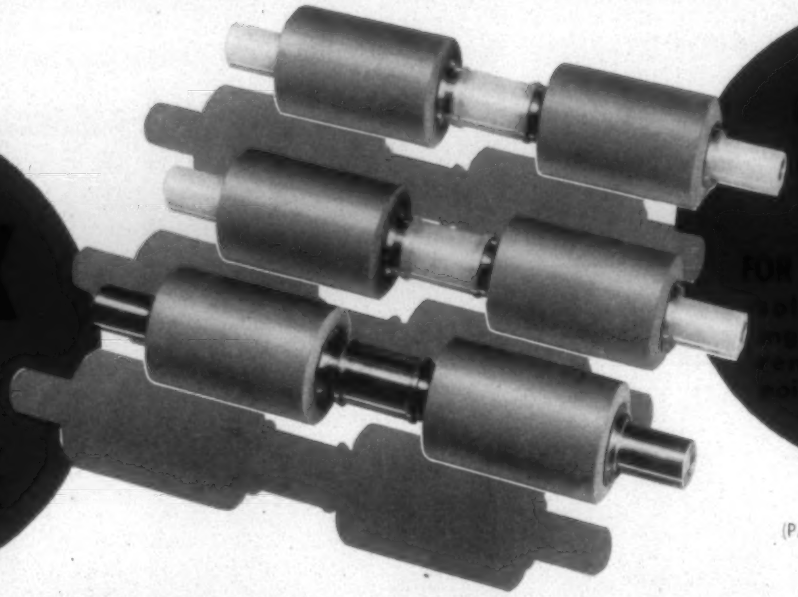
Order Koolchecks for real economy.

Patent No. 2452690

ORPORATION KINGSPORT
TENNESSEE

See what Modern Top Rolls can save you

CLIMAX
TOP ROLLS
FOR FRONT LINES
rugged, ball-bearing, long life lubricated, frictionless, lint-proof.



SINTEX
TOP ROLLS
FOR BACK & MIDDLE LI
solid with non-lubrica
ing, practically wearpro
renewable inserts at a
points of wear.

(PATENTS APPLIED FOR)

This combination of top rolls completely eliminates oiling in the drafting area,

(100% saving on oil and oiling effort. 100% freedom from oil on your yarn and cots.)

Reduces cleaning,

(Roll picking effort minimized to intervals as long as several weeks apart. Practically no other cleaning.)

Much better running work,

(Fewer ends down, improved break constant, improved deviation, improved yarn appearance.)

PAY FOR THEMSELVES OVER AND OVER IN DIRECT DOLLAR SAVINGS AND YIELD EXTRA DIVIDENDS IN QUALITY.

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(TYPE OF DRAFTING SYSTEM)______________________________

(TYPE OF YARN)______________________________

MR.______________________________POSITION______________

MILL______________________________CITY______________

WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

Belief persists that Truman will make a broad tour of the country this Fall to strengthen his popular following. Growing weakness in Congress, and failure of his legislative program, are expected to make a tour necessary. Of 24 major proposals submitted to Congress on Jan. 5, only rent control had been salvaged at the end of 22 weeks. Truman is reconciled to adjournment of Congress early in August.

Congress has balked at every outstanding proposal on which Truman demanded action. Rent control was "softened up;" compulsory health insurance is shelved; revision of the Taft-Hartley law, if attained, will be little more than changing its name; economic controls and planning are discarded, and a boost in taxes is not in sight.

Drastic changes in policies are being forced on the Administration by economic changes. Plans had been geared to more and bigger spending and prosperity. Downward trend has caught the Administration flat-footed, with only old pre-war plans for pump priming to lean on.

Truman is becoming resigned to the thought that this is just not his kind of a Congress. He's seeking compromises all along the line, without admitting as much. Chief trouble is Congress won't give him what he wants most, more taxes.

There's no likelihood the President will openly break with Congress, or publicly denounce it as "worse yet." This action would be grabbed by Republicans as soon as an open invitation to return them to control next year. Even on a stumping tour, the President will have to defend his Democratic Congress.

House leaders will not bring up labor legislation again until after the Senate acts. A majority of House members favor the Wood bill, largely similar to the Taft bill. All efforts at agreeing on a compromise have failed. Administration forces have made every effort to reach a compromise somewhere between the Thomas-Lesinski bill and the Taft and Wood bills. There's evidence of willingness to take whatever can be had, without threat of a veto. But a veto is deemed highly probable.

All civil rights legislation is dead for this session. While still urged, yet prolonged debate on labor law revision, acceptance of the Atlantic pact, and extension of Reciprocal Trade Treaty powers, will not allow bringing up any of them.

An F. E. P. C. bill, giving power to courts to bar alleged discrimination, has been reported out by a House Labor sub-committee. It may pass the House, but would meet a filibuster if brought up in the Senate.

Ouster of Communists in control of C. I. O. unions will be pushed by Murray for the rest of the year. Murray fears the Taft-Hartley law may not be repealed, and A. F. of L. will start raidingh his Communist infested unions. The anti-Communist affidavit provision will be retained in any labor law revision. Overwhelming majorities in both chambers support it. Evidence of Communist disruption in industry, during and since the war, would be appalling of the F. B. I. was permitted to make it public.

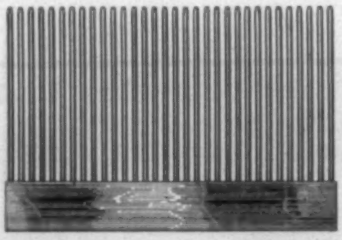
Senate action on the $65 billion pension bill passed by the House will not come in this session. Payments would stretch over the next 50 years, with a maximum of $72 a month to a veteran.

An epidemic of prolonged strikes is in prospect for late Summer. Steel, coal and several big industries have expiring wage contracts, with strikes likely. A coal strike will be of long duration.

Sharp emphasis on greater economy in public spending is growing in letters of constituents to House members. Letters reflect concern over a further increase in the national debt, and oppose a tax increase.

This year's pay raises in industry are scarcer and smaller. May unions are trying to settle on straight contract renewals. With jobs scarcer, and buyer resistance growing, round four wage demands have produced only some minor increases.

Action for federal aid, or for a long-range housing bill will probably fail in this session. The House Rules Committee refused to clear the Administration's long-range bill. The Senate had passed it. Opposition arises from its cost and loose administrative provisions.



POSITIVE EXPANSION
COMB SECTIONS

We can furnish new comb sections promptly of any count and with hard steel or stainless steel pins any length.

Hard chromium plated pins are recommended.

GREENSBORO LOOM REED COMPANY, INC.
GREENSBORO, NORTH CAROLINA

COLOR SELLS TEXTILES

(Samples shown are blended yarn fabrics.)

Only the best in designing will sell a fabric today, and only the best in yarn dyeing will *keep* it sold.

Franklin Process

Largest Package Dyers in the World

Providence Philadelphia Greenville Chattanooga
New York Representative – 40 Worth Street

You are Not Saving Money

By Continuing The Use Of All Wood Shuttles

The New *Duro-Weld Shuttles* cost Less (over a period of time)

The material used in the *walls* of this Shuttle is a product of the laboratory, — not one grown by nature. Therefore it is absolutely free of defective growth usually found in the products of nature.

Having created the material, the next question was to make it an integral part of the Dogwood base to which it becomes a part. A technique of bonding these various materials has been so perfectly developed that they cannot be separated or torn loose.

The two materials become one through an unusual molecular action of adhesion.

Shuttles made of Duro-Weld have untold advantages, giving maximum strength and smooth wearing surfaces. It's the Modern Method of obtaining every characteristic wanted in a Shuttle.

Only **Southern** can supply it.

Send for complete data on Duro-Weld.

Go Modern — Go Southern.

A new modern
Shuttle Plant
at Paris, S. C.,
is now open to
better serve
your needs.

Southern Shuttles Division

(Where Science and Continual Experimentation Are Concentrated on Shuttles)

of **Steel Heddle Mfg. Co.**

621 E. McBee Ave. Greenville, S. C.

textile bulletin

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Traitors Among Us

Our development of atomic energy and the display of its power in Japan brought the Japanese to their knees and saved the lives of several hundred thousands of our fine young men who would otherwise have died storming the beaches of Japan.

It is undoubtedly true that our possession of a supply of atomic bombs, and the fact that Russia did not know the secrets of their manufacture, is the only thing which prevented Russia from sweeping over western Europe and forcing us to drive them out with an enormous sacrifice of life.

In the face of such a situation every American citizen should be willing to guard our atomic secrets with his life.

Yet, we are appalled at the extremely large number of citizens of the United States who are now being accused of seeking to make it possible for Russia to acquire atomic secrets. Among them is the nephew of a very fine and loyal American who while a citizen of Charlotte built and operated a cotton mill.

How that fine man could have a nephew who would be willing to make it possible for Russia to obtain the atomic bomb and be in position to destroy American cities and kill hundreds of thousands of our men, women and children is beyond our comprehension.

Under the management of David Lilienthal a quantity of vital atomic material has "disappeared," and his only excuse for permitting quantities of atom-bombarded isotopes to be shipped to Europe is that the 1946 Atomic Energy Act did not expressly prohibit their shipment.

David Lilienthal knew that the possession of the isotopes would be of great value to those who were doing research in efforts to discover the secrets of atomic energy.

A few years ago, no one would have believed that the day would come when a large number of American citizens would be charged with trying to place an enemy country in position to acquire weapons and materials which could be used to destroy cities in this country.

Freedom of Speech

When we were in England several years prior to the World War II, it was almost impossible to take a walk in the late afternoon or evening without hearing soap box orators, upon street corners and in the parks, berating England and its government and in many cases openly advocating the overthrow of the government by force.

The English people had been sold upon the idea that if no effort was made to curb the speakers no harm would result.

"Let them talk," said the Englishman with whom we spoke, "and there will be no evil effects."

The soap box orators did talk and did without restraint advocate the overthrow of the government by force and it is now realized that among those who listened were many who hearing only one side came to believe that "those who had" should be heavily taxed to provide for "those who had not" and those who preferred not to work.

When World War II came, the people of England found that its citizens were not 100 per cent loyal and, at a critical time in the conflict, almost lost the war because of demands for the socialization of coal mines and railroads and other industries.

The unbridled words of the soap box orators had sunk deep and had changed the thinking of many in England.

Those in England who took pride in the so-called freedom of speech and said that the soap-box orators would do no harm, now see England rapidly becoming socialized if not communized.

Freedom of speech is, of course, a thing which is to be prized but there should be a limit and England now realizes that freedom to spread false doctrines and to make false charges against the government is not a healthy thing.

When Communists stand upon soap boxes and make false charges, the people hear only one side and if they hear the charges often enough, come to believe them.

"Right To Work Law"

The 1947 North Carolina Legislature, by an overwhelming vote, enacted a law which prohibited the closed shop or any form of union contract which would deny a man or woman the right to work if he or she refused to join a union or pay dues. It also prohibited the check-off.

The people of North Carolina and their representatives in the Legislature felt that every citizen had a right to work and that none should be denied employment because of his, or her, decision against joining a union any more than that an employer should be permitted to discharge an employee because he, or she, had joined a union.

After the 1947 North Carolina Legislature adjourned, the leaders of both the C. I. O. and the A. F. of L. began to shout that the law was unconstitutional, but it was sustained by a unanimous vote of the North Carolina Supreme Court and then on Jan. 3, 1949, the United States Supreme Court, also by a unanimous vote, held that the North Carolina Law was legal and constitutional.

Justice Black, in writing the opinion, said:

> Just as we have held that the due process clause exerts no obsta-

> cle to block legislative protection of union members, we now hold that legislative protection can be afforded non-union members.

During the primaries of 1948 both the C. I. O. and the A. F. of L. went about attempting to scare candidates for the 1949 Legislature of North Carolina and get them to pledge to vote for the repeal of the 1947 "Right to Work Law."

Very few candidates paid any attention to the threats, partly because they knew that, in North Carolina, organized labor has never elected or defeated any candidate for office.

Men or women who join labor unions do not surrender their right to vote as they please and in our opinion the power of labor union leaders to control votes is vastly overrated.

During the 1948 national election, President Truman, who had vetoed the Taft-Hartley Law and because of his insistence upon the repeal of same, had the support of almost every labor leader in the great industrial states of Pennsylvania, New Jersey, New York and Connecticut; but he lost the electoral vote of all of them.

In spite of their boastings and the pledges made to Harry Truman, the labor leaders in those four states, found it impossible to force the members of the unions to vote as they ordered.

When the 1949 North Carolina Legislature convened, the leaders of the C. I. O. and the A. F. of L. realized that there was no chance for them to secure a repeal of the 1947 "Right to Work Law."

They then set about trying to gain something by amending the law to permit the union shop under which employers must discharge those workers who, after a certain period, refuse to join the union.

Gov. Kerr Scott sent a message to the Labor Committee of the House urging that the union shop be permitted, thereby becoming the first North Carolina governor in over 50 years who was in favor of permitting citizens of North Carolina to be discharged when as free men or free women they decided that they would not join a certain organization.

All the governors who have preceded Governor Scott would have stood shoulder to shoulder with him in opposition to any law which would have permitted an employer to discharge a worker because he *had joined* a labor union, but none of them would have stood with Governor Scott when he urged the 1949 Legislature to enact legislation which would force employers to discharge citizens of North Carolina and deny them the right to earn their living in their chosen places of employment, simply because they had decided for themselves that they *would not join* a union.

During World War II, many Army and Navy stations were built in North Carolina, and there are many thousands of farmers who will never forget that when they applied for work, as carpenters or laborers, they were forced to join a union and pay initiation fees of $50 to $100, usually $75, or else be denied employment, and that if given employment they had to pay $1.00 per week as dues or else be subject to discharge.

Fortunately, the Legislature of North Carolina was unwilling to yield to the demand of Governor Scott and permit citizens to be subject to discharge because they refused to join a union. The House denied his demand by a vote of 57 to 17.

The "Right to Work Law" as enacted by the 1947 North Carolina Legislature has been sustained by the unanimous vote of both the North Carolina Supreme Court and the United States Supreme Court and will remain indefinitely as the law of North Carolina.

What Is a Lynching?

Recently two men broke into a jail in a small town in Georgia, seized a Negro who had attempted to shoot the sheriff; later his body was found riddled with bullets. That unfortunate affair has been heralded over the country as a *lynching?*

We have just noted the following newspaper dispatch:

> Joliet, Ill., June 7.—Gamblers' gunmen fired eight slugs into a man's head today to make sure, police theorized, that he'd cheat them no more by using slugs to drain their slot machines. The bloody ambush from a racy car, two gun muzzles belching from its side, killed Myron August Gerbing, 44, who lived alone in a trailer camp in the town of Lake, near Milwaukee, Wis.

Although more than two men took part in killing a man who was robbing their slot machines, commonly known as "one-armed bandits," that affair was not designated as a "lynching" nor did it rate more than a few inches of type in Northern newspapers.

We do not in any sense condone the murder of the Negro in Georgia but fail to see how it was as bad as killing a man for robbing slot machines. Apparently the term "lynching" applies only to murders committed south of the Mason and Dixon line.

TEXTILE INDUSTRY SCHEDULE

June 16-18—Annual convention, **SOUTHERN TEXTILE ASSOCIATION**, Mayview Manor, Blowing Rock, N. C.

June 23—Annual meeting, **NARROW FABRICS DIVISION, COTTON-TEXTILE INSTITUTE**, Chalfonte-Haddon Hall, Atlantic City, N. J.

June 24-25—PIEDMONT SECTION, A. A. T. C. C., Ocean Forest Hotel, Myrtle Beach, S. C.

June 27-July 1—Annual meeting, **AMERICAN SOCIETY FOR TESTING MATERIALS**, Atlantic City, N. J.

July 20-23—Annual **SOUTHERN INDUSTRIAL RELATIONS CONFERENCE**, Blue Ridge, N. C.

July 28-30—COTTON RESEARCH CONGRESS, Baker Hotel, Dallas, Tex.

Sept. 16-17—CAROLINAS-VIRGINIA PURCHASING AGENTS ASSOCIATION, Greenville, S. C.

Sept. 26-28—NATIONAL ELECTRONICS CONFERENCE, Edgewater Beach Hotel, Chicago, Ill.

Oct. 13-14—43rd annual meeting, **NORTH CAROLINA COTTON MANUFACTURERS ASSOCIATION**, Carolina Hotel, Pinehurst, N. C.

Oct. 13-16—National convention, **AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS**, Chalfonte-Haddon Hall, Atlantic City, N. J.

Oct. 24-28—37th **NATIONAL SAFETY CONGRESS AND EXPOSITION**, Stevens, Congress & Morrison Hotels, Chicago, Ill.

Oct. 27-28—Annual meeting, **CARDED YARN ASSOCIATION**, Sheraton-Bon Air Hotel, Augusta, Ga.

Nov. 3—Annual meeting, **COTTON-TEXTILE INSTITUTE**, Waldorf-Astoria Hotel, New York, N. Y.

Nov. 5—PIEDMONT SECTION, A. A. T. C. C., Charlotte Hotel, Charlotte, N. C.

Jan. 16-19, 1950—PLANT MAINTENANCE SHOW AND CONFERENCE, Cleveland (Ohio) Municipal Auditorium.

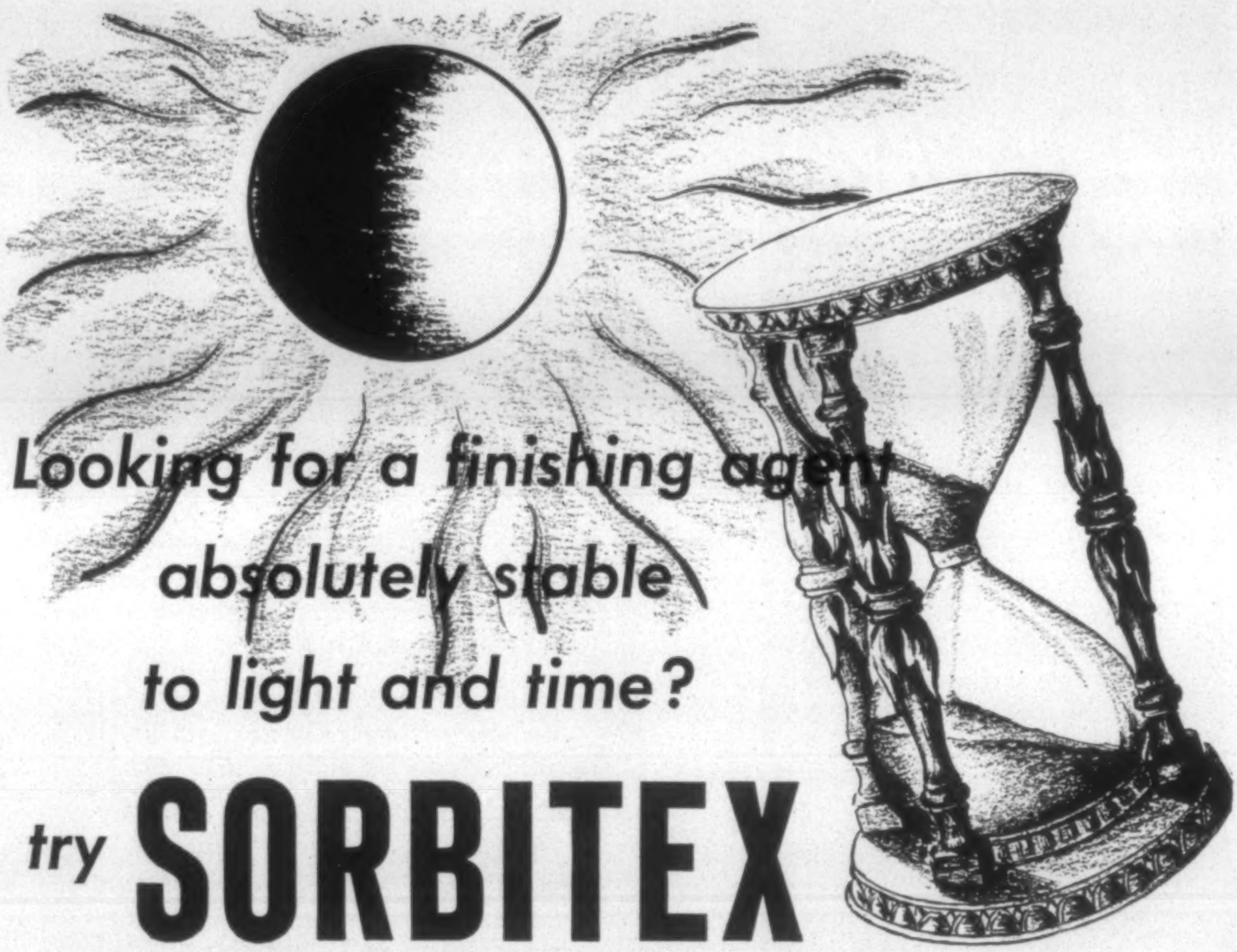
Jan. 23-25, 1950—12th annual meeting, **NATIONAL COTTON COUNCIL**, Hotel Peabody, Memphis, Tenn.

March 30-April 1, 1950—Annual convention, **AMERICAN COTTON MANUFACTURERS ASSOCIATION**, Palm Beach-Biltmore Hotel, Palm Beach, Fla.

May 8-12, 1950—AMERICAN TEXTILE MACHINERY EXHIBITION (and Allied Industries), Atlantic City (N. J.) Auditorium, sponsored by National Association of Textile Machinery Manufacturers.

Oct. 2-7, 1950—16th **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 19-21, 1950—National convention, **AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS**, Statler Hotel, Boston, Mass.



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Exceptionally high speeds are possible without loss of quality. Machine can be equipped to wind 6" or 7" traverse tubes.

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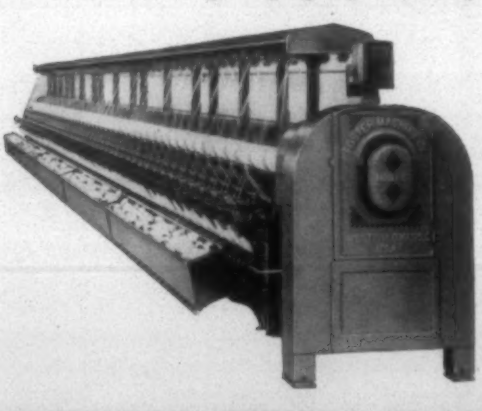

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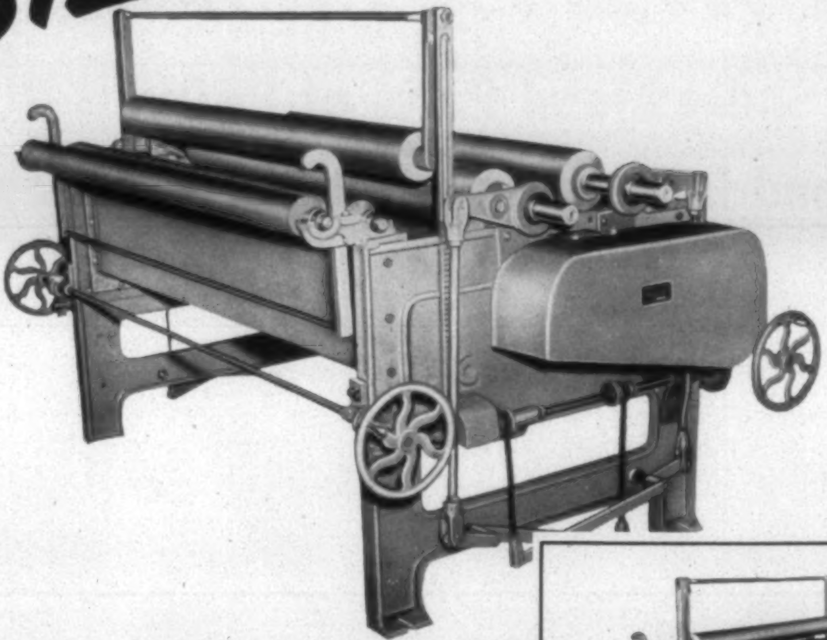
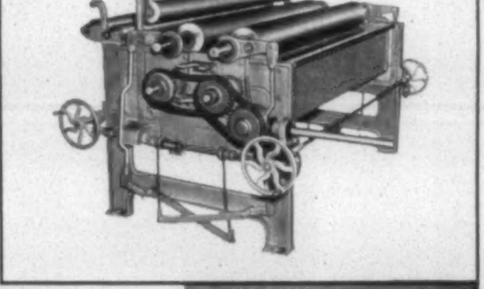
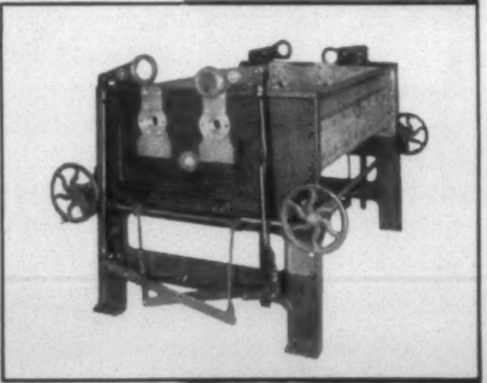




Above: Built of stainless steel, steam-jacketed, or plain, strongly braced. Steam jacket helps prevent dilution of size. Chain drive covered.

Right, top: Ball bearings on size rolls. Ball bearing hangers on squeeze rolls hold them in perfect alignment and are connected to handwheel to permit raising for washing purposes. Note chain drive.

Right, below: View with rolls removed. Deep brass stuffing boxes will not leak size.



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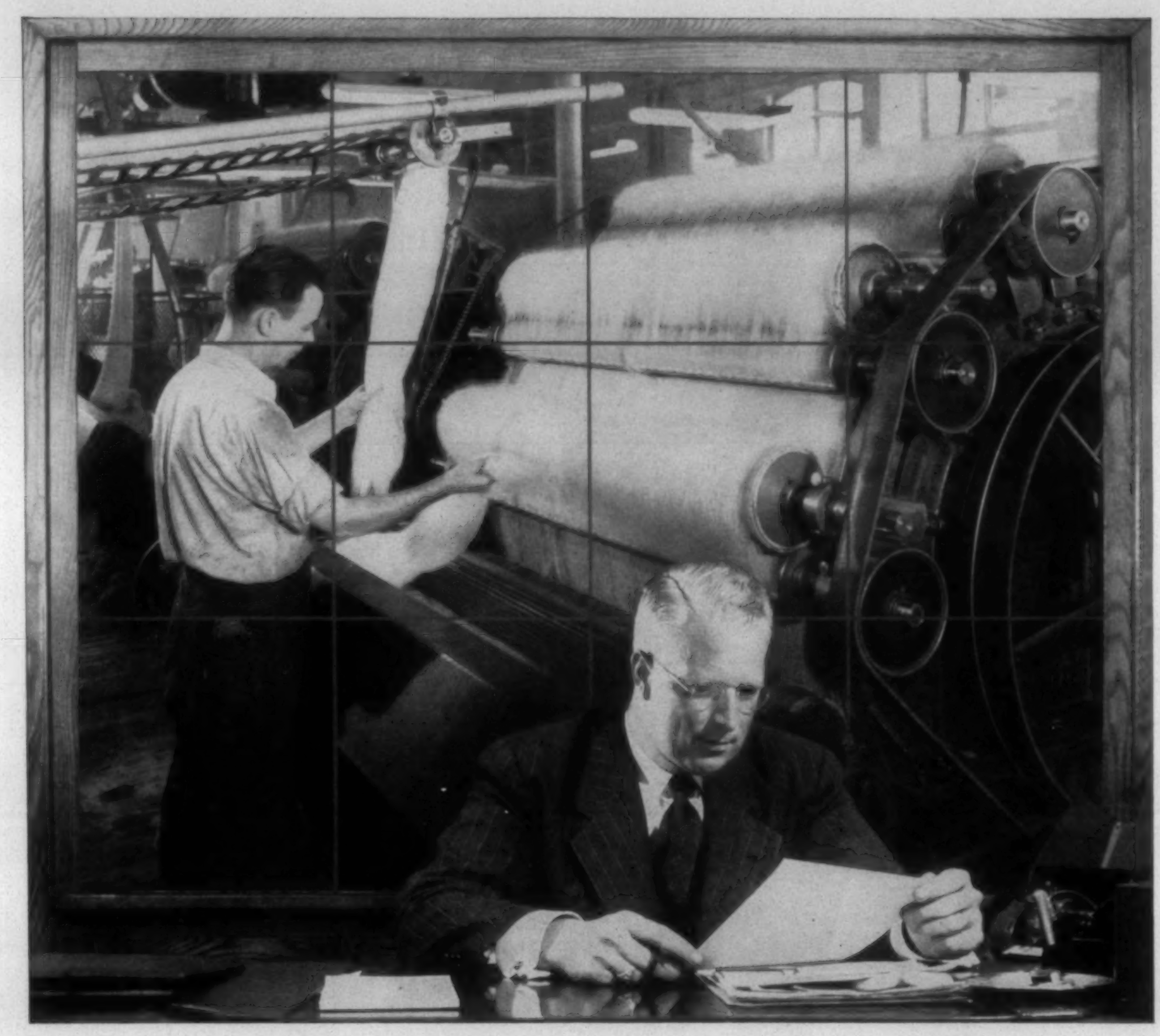

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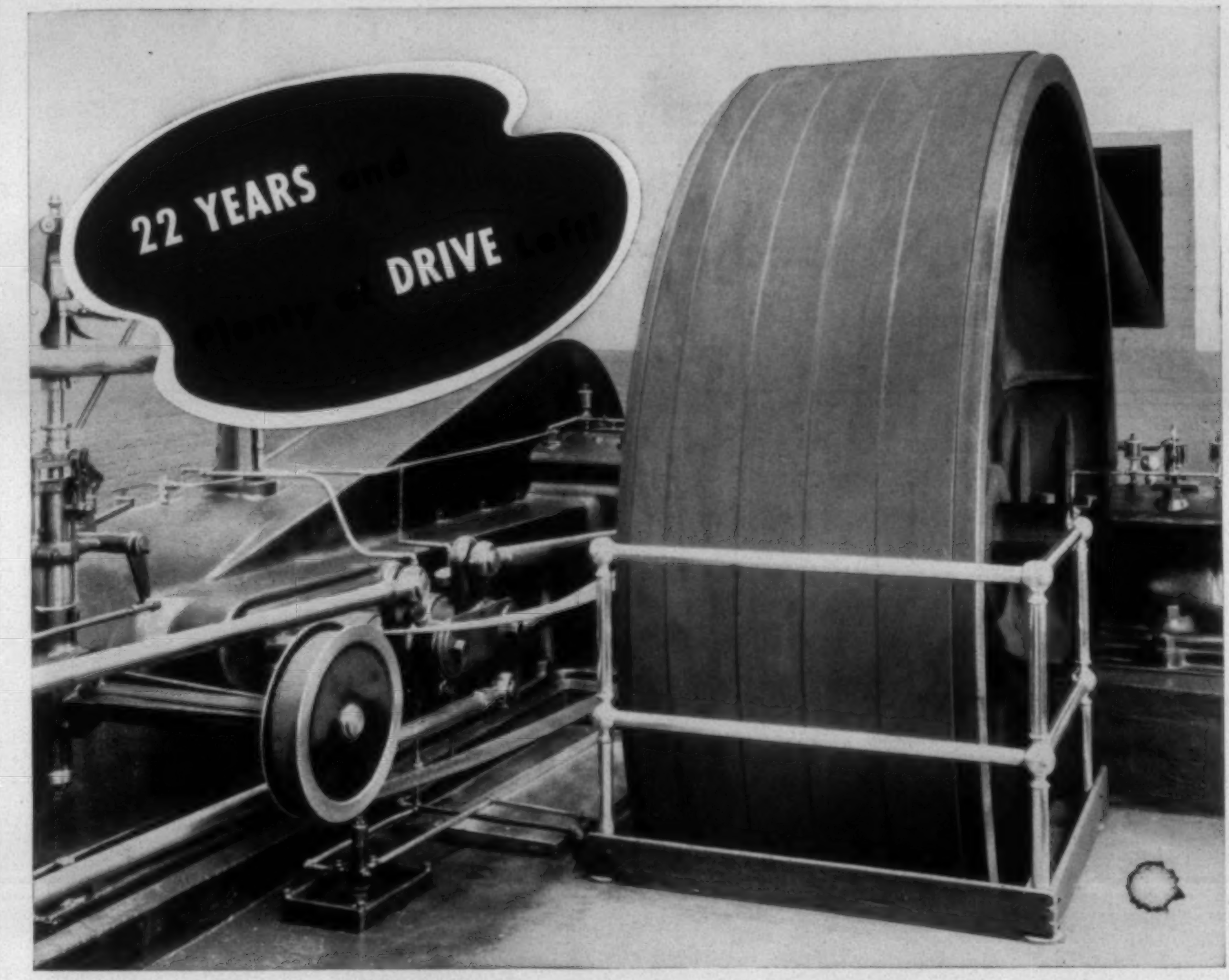

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This 38″, 10-ply Condor Transmission Belt has worked continuously for 22 years in the engine room of J. L. Prescott Company, Passaic, N. J. It is still going strong and looks good for several more years before being retired.

This example of Manhattan belt workmanship is one of many records set by Condor Transmission Belts. Pioneer developments in belt construction have come out of Passaic for more than 56 years . . . and new Manhattan developments continue to benefit industry.

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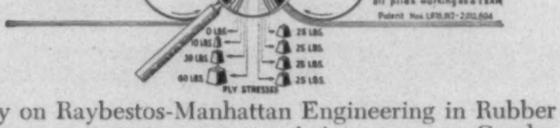

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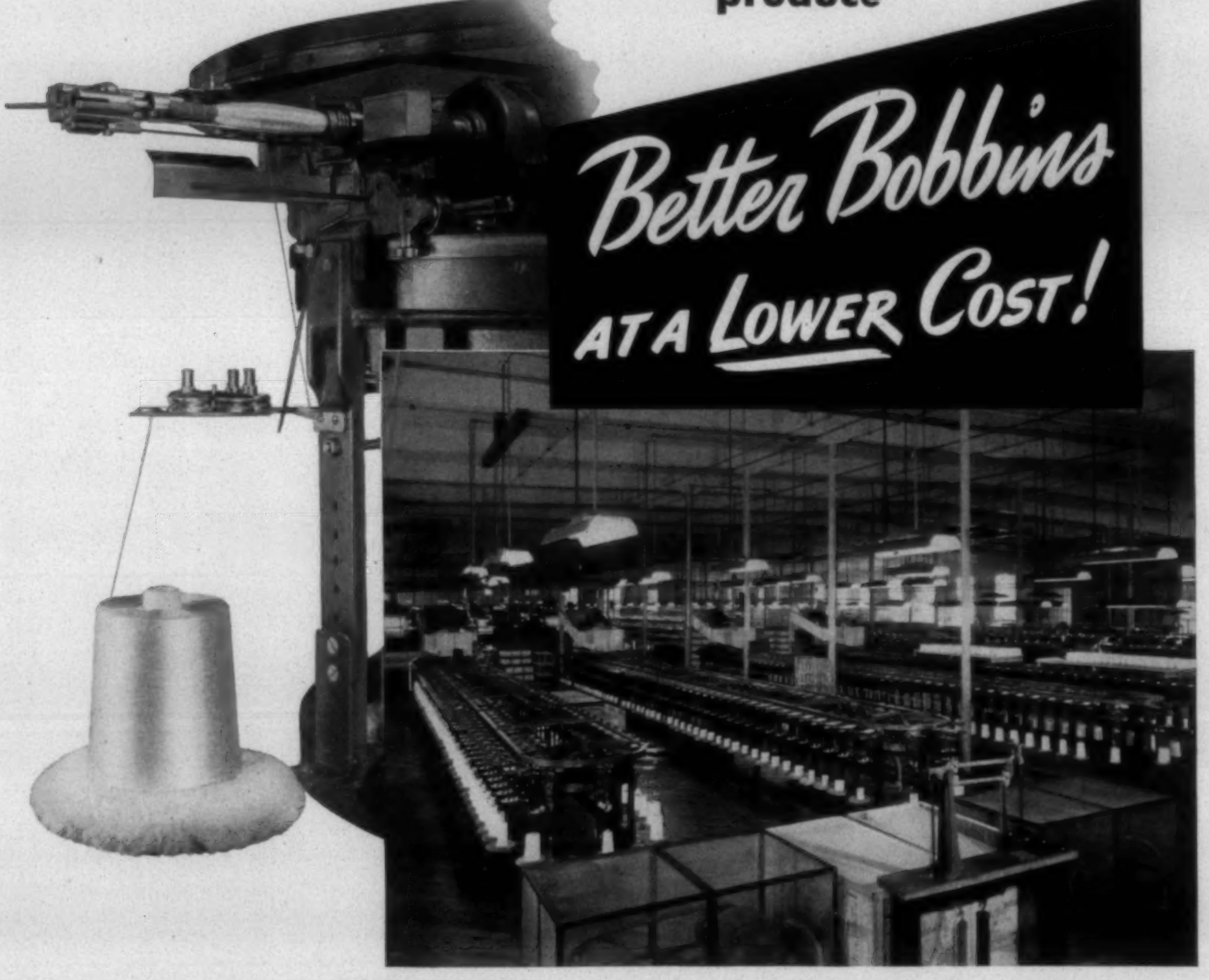

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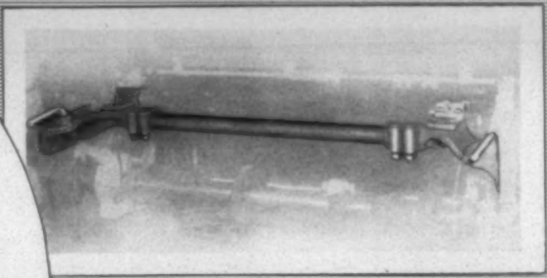

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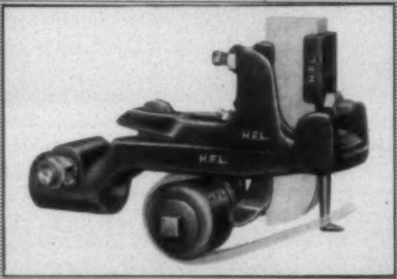

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ABP textile bulletin ABC

VOL. 75 JUNE, 1949 NO. 6

Spinners And Breeders Kick Cotton Around

DURING the three days of the recent Sixth Spinner-Breeder Conference cotton was praised, criticized, blamed and excused by the various interests which handle the fiber from field to fabric. Nevertheless, the several hundred persons in attendance felt that the exchange of information had been beneficial.

Sponsored by the Delta Council Advisory Research Committee (of Stoneville, Miss.) and with the Southern Combed Yarn Spinners Association as host, the conference began at Charlotte, N. C., May 30 under the direction of Fred L. Smyre, Jr., president of the S. C. Y. S. A. as well as A. M. Smyre Mfg. Co.

The keynote of the meeting was given by Hugh Comer, president of Avondale Mills of Sylacauga, Ala., in the opening session held Monday morning. Introduced by A. G. Myers of Gastonia, N. C., president of Textiles, Inc., Mr. Comer said "Old Man Cotton is in trouble with his customers" and is in an all-out war with its competitors but will win in the battle through mechanization, chemistry and research. The combination of agronomy and chemistry working together cannot miss in the effort to put cotton in a place in which it can win over its competitors, he declared. As a challenge to the raw cotton interests, the Alabama mill executive declared, "how much more valuable it would be if we could refine raw cotton, and then in the manufacturing processes, it would be free from neps and slubs."

Monday afternoon was devoted to a panel discussion on cotton varieties, testing and market outlets. R. Dave Hall of Belmont, N. C., secretary and treasurer of the Climax Spinning Co. and the Majestic Mfg. Co., was moderator. Preceding the panel discussion on the afternoon program, Dr. G. N. Stroman, agronomist for the New Mexico Agricultural Experiment Station at State College, New Mexico, gave a resume of the previous years of the conference.

Twelve speakers, all of them recognized as leaders in their various phases of the cotton industry, took part in the panel, outlining their thinking in connection with the development of better cotton and better cotton products which will take care of competition.

Dr. C. R. Sayre of the Delta Council reported that on test shipments of American cotton to English mills, representatives of the Shirley Institute and the British Raw Cotton Commission believed improved packaging and more secure markings than exterior tags would be essential if placing cotton into export channels proved beneficial to growers and mills. He also expressed belief that synthetic fibers could be further reduced in price.

C. A. Tate of Stoneville Pedigreed Seed Co., Stoneville, Miss., one of the early speakers on the panel, emphasized the need for a better understanding between the breeders and growers on one hand and the spinners on the other. "I never saw a breeder who was also a spinner," he said as he went on to point out that in the past the breeders have been working more closely with the growers and they understand what the growers want. There is a need for breeders to know more about what the spinners want, Mr. Tate said.

W. T. McClure, Jr., Marett Farm and Seed Co., Westminster, S. C., asked the spinners "Had you rather have strength or uniformity?"

Frank W. Davis of Firestone Textiles, Inc., Gastonia, N. C., noted that tire cord manufacturers stressed high tensile strength and fiber fineness in their cotton procurement. A fiber testing program at the Firestone plant includes use of the Pressley fiber break method to determine the fundamental strength of the fibers, with additional research enabling locating growths and types that produce high-quality cord, Mr. Davis said. In the following discussion Edward S. Calkins of the U. S. Rubber Co., New York, said that he agreed that strength was one requirement for tire cord but that his company preferred a coarse fiber.

Only goods made from good quality cotton and with the highest degree of spinning and weaving efficiency are acceptable to the trade, declared Robert T. Stutts, Carolinian Mills, Inc., High Shoals, N. C. With this situation, he said the manufacturer must obtain "the very best quality" raw material at a price "that will enable him to compete with foreign manufacturers abroad and synthetic fibers at home." Mr. Stutts, 1948-49 president of the Southern Textile Association, asserted that cotton quality affects mill operations thus: (1) amount of waste present; (2) production; (3) quality of fabrics, and (4) morale. He said weak yarns and a low efficiency in weaving production go hand-in-hand.

The combed yarn industry needs cotton of good grades, good staple and good character, it was declared by A. K. Winget of Albemarle, N. C., president of the Efird Mfg. Co. Mr. Winget reminded that cheap cotton does not always mean good times for the cotton industry; that when cotton prices are high the country is in an economic condition in which the people can buy good merchandise, and that often when the price of cotton has been low it has not been possible to sell textile products at a profit.

In recent years, the textile industry has become "quality-control-minded," said John T. Wigington, director of the technical service division of the Cotton-Textile Institute, Inc., Clemson, S. C. A number of mills have completely equipped and air conditioned laboratories for checking and maintaining quality from the picker room to finished yarns and fabrics, and more recently, many mill laboratories have included cotton fiber testing in their quality control programs, he stated.

The poor competitive position of cotton was described by A. W. Bell, vice-president of the American Yarn & Processing Co., Mt. Holly, N. C., who explained that it costs too much and is often harder to work with than are the scientifically controlled synthetics. He stressed the importance of improved methods in growing and buying the raw material so that a mill may be more certain of the yarn which it will produce. He declared that in comparing cotton with synthetics, the situation was "much more serious than the cotton industry realized." He said chemically and scientifically-made fibers did not have deficiencies found in cotton, such as: Variation in fiber staple and diameter, unknown dyeing properties, neps, waste factors and running qualities. "If mills could scientifically test each bale of an entire lot before buying it, it would mean the elimination of 90 per cent of manufacturing troubles," Mr. Bell stated. Trading angles, however, prevent this procedure, he added.

Graves Jones, Jones, Gardner & Beal, Providence, R. I., firm which acts as the cotton department for some 30 mills in the South and East, stated that in purchasing cotton a spinner considers: (1) breaking strength, appearance and finishing requirements of the mill's end product; (2) mill machinery, especially preparatory set-up, and (3) cost of cotton. His company establishes quality control programs for each mill, making periodic laboratory checks in the various processes, including fabric analysis.

Because of variability in quality of raw material, cotton manufacturers have developed a procedure of blending and mixing cotton from a large number of bales, striving to maintain "uniformity," said W. J. Martin of the production and marketing division, cotton branch, U. S. Department of Agriculture.

Immediately following the panel, the conference enjoyed a party in the Rose Room of Hotel Charlotte as guests of the cotton shippers, warehousemen, and futures brokers of the Charlotte, Gastonia area.

On Tuesday, those attending the conference were entertained at lunch by Firestone Textiles, Inc., of Gastonia, and at a barbecue party in the evening by a group of Belmont mills at Belmont. During the day they were conducted on tours of mills in the Gastonia area.

Dr. Burt Johnson, cotton technologist for the National Cotton Council, spoke at the Wednesday morning session on the long-staple cotton program. He said that if current tests are successful, there will be little or no need for importing long-staple lint from Egypt. He explained that so far three new varieties have been developed and have proved successful enough to warrant a second year of tests on a wide scale in the South. He spoke of tests already made with 19 new cottons. In an interview, he explained that the main purpose of the tests is to find a cotton that can be grown in the South on a scale profitable for the farmers and will yet maintain the high quality of the Egyptian long staple. He told of co-operation of spinners and breeders to test various samples of long-staple cotton and said that out of the 19 tested, three will be given broader tests during the next year. Dr. Johnson described the research program to date as encouraging and called for continued co-operation and interest on the part of all phases of the industry.

Dr. Warren F. Busse, technical director of the Institute of Textile Technology, Charlottesville, Va., charged there is a greater information gap between the spinner and the breeder of cottons than between the areas east and west of the Iron Curtain. He urged that greater use be made of the information already acquired, that the breeder learn some of the spinning problems and that the spinner learn more of the cottons which the breeder has developed. He revealed that some of the technical tests which have been given cotton for strength, fineness and other qualities may be misleading. He urged that greater research be made of the structure of the cotton fiber, in the belief that this might lead to better understanding of cotton's behavior in spinning.

The textile machinery manufacturer and the spinner of American cottons must shoulder a portion of the load of cleaning machine-picked cottons, and not leave the full burden to the ginner. This was the concensus of the panel discussion on "mechanization, ginning, cleaning and processing," at the closing session Wednesday. Dean Malcolm E. Campbell of the North Carolina State College School of Textiles was moderator.

The spinner representatives on the panel were agreed that since the start of mechanical picking and the resultant efforts on the part of the gins to remove the heavier trash content, the mills have been troubled more and more with broken leaf and other trash which is so firmly imbedded in the cotton that the usual mill practices will not remove it. Ginning experts, however, insisted that this trash has not resulted from over-ginning or the addition of cleaners after the cotton is ginned. The fault lies, they said, in improper handling of cotton before ginning, the greatest fault being improper application of heat in an effort to dry the cotton and speed the ginning process.

It was admitted, too, that some of the neppiness of cotton—those spinning imperfections which withstand either uniform bleaching or dyeing—developed as much in the mill as the result of spinning practices as they were caused by mistreatment of the cotton by the gins. The result was an understanding that all branches of the industry work to provide better cottons and to give them better treatment in spinning processes.

F. L. Gerdes, in charge of the Stoneville laboratory, re-

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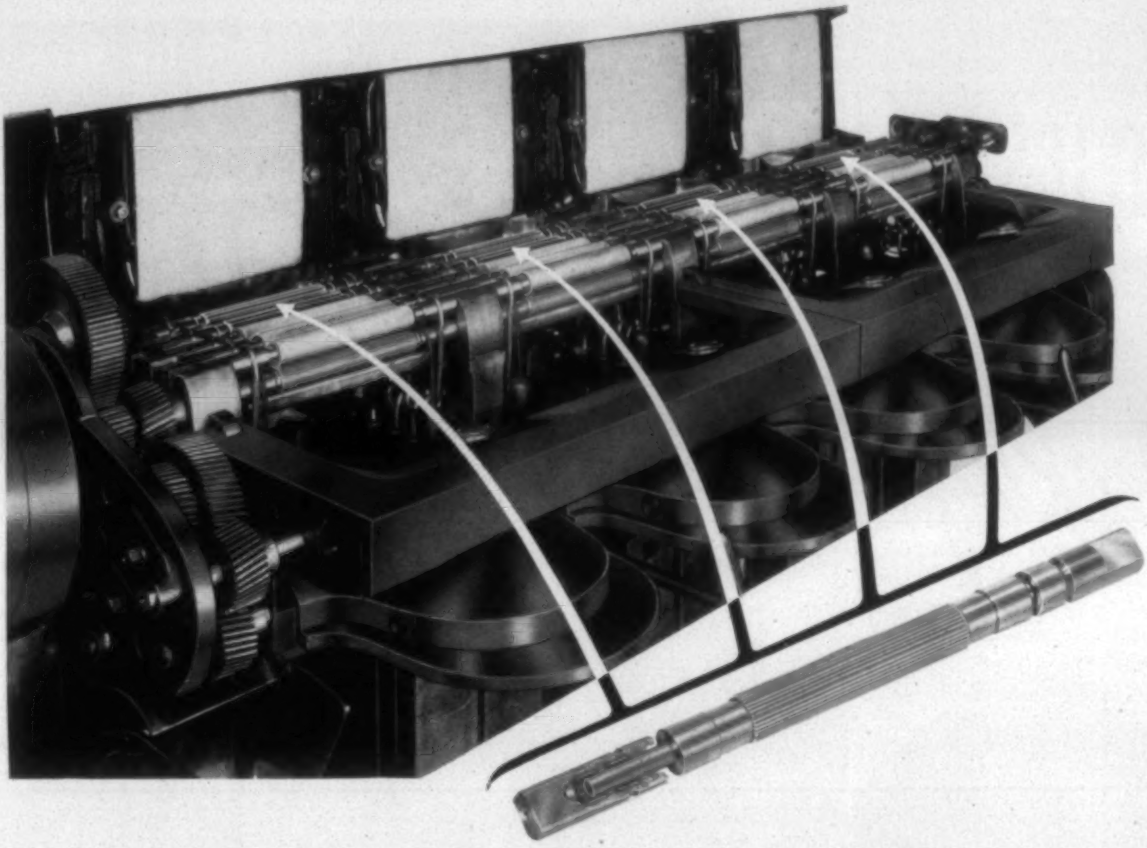

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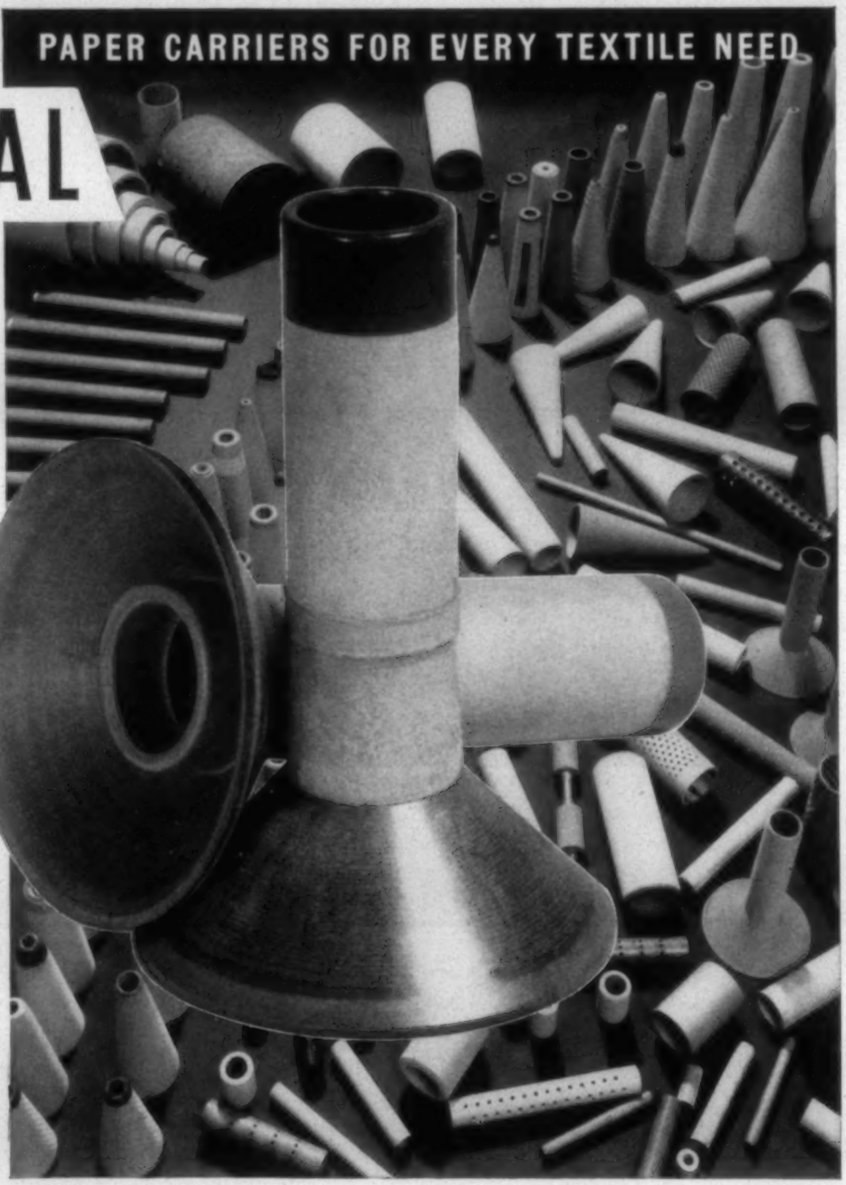

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ported that complaints of damage to lint had been uniformly traced to what was done to the cotton before it reached the gin stand.

Hunter Cauble, superintendent of the Smyre Mfg. Co., Gastonia, said the present machinery in the mills is not able to cope with the pulverized leaves which get into the cotton as the result of excessive temperatures in drying before ginning.

E. C. Gwaltney, vice-president in charge of research and development, Saco-Lowell Shops, Biddeford, Me., suggested that the old methods of cleaning cottons, which are based "on the antiquated concept of winnowing wheat," be forgotten, and that research be started for other and more modern methods. He suggested that supersonics or electronics be used in cleaning cotton. He revealed that his laboratory already is working on a cleaning method of using vibrations set up by high-pitched sounds, and suggested that others work along the same lines. The thought for this experimenting, it was indicated, stemmed from a report by the Textile Research Institute, Princeton, N. J., which expressed belief that cleaning machinery in mills caused "serious degradation" of cellulose in cotton fibers. Mr. Gwaltney said that perhaps neps were introduced in mill processing of cotton by this factor. Mr. Gwaltney asserted that present mill methods were not adequate to properly clean machine-picked cotton. He reported that beating the cotton, as in the average spinning mill, generates enough heat to damage the cellulose fiber in cotton and weaken it materially.

Charles D. Green, production manager of Reeves Bros., Inc., Spartanburg, S. C., believed the majority of neps were caused by "immature fibers," which are multiplied by mill machinery. All neps show up in the dyeing process, making a darker spot on the fabric, he reminded. Some form of action should be taken, Mr. Green felt, to solve this problem in the spinning stage.

Mr. Winget, representing combed yarn mills, and A. W. Fisher of Cannon Mills Co., Kannapolis, N. C., representing carded yarn spinners, were named to a committee to study and appraise two bills recently introduced in the House of Representatives: H. R. 4813, which would establish and promote the use of standard specifications and methods of identifying cotton bales in interstate commerce according to variety, location and year of growth, and H. R. 4814, providing for collection and publication of information on different types, varieties and strains of cotton produced in the United States and of all cotton used by mills in the manufacture of textile products. The conference voted to hold its next meeting, in the early Summer or early Fall of 1950, in El Paso, Tex.

Opening, Picking, Carding & Spinning

Constant Speed Winding Of Textile Yarns

By H. W. BALL, Chief Engineer, Foster Machine Co., Westfield, Mass.

DURING the course of the manufacture of textiles, it is necessary at some time during the process, to wind the yarn to a package which is usable in subsequent processes. The properties of the yarn and the use to which it is to be put usually determine the type of winding machine on which this work is done. There is an old saying in the textile field that "well wound is half-woven," and this has a lot of truth. There are two basic classes of winding processes. The first consists of driving the yarn package on the surface, which results in a constant yarn speed or surface speed, and the second, driving the package from a spindle, which results in variable yarn or surface speed.

Open Wind

The first general class of winding machines is known as open wind. In this type of machine the yarn package rests on a drive roll which revolves at a constant rate of speed. The yarn is traversed by a guide which is actuated by a cam revolving on a shaft. This gives the guide its back-and-forth motion, thus laying the yarn on a package in a series of helices. If the traverse guide were traveling at a uniform number of oscillations per minute and the package were revolving at a decreasing r. p. m., it is obvious that at certain points in the package the ratio of the r. p. m. of the package to the strokes of the traverse will be a whole number, such as an even 2 to 1 or 3 to 1. At these points, the yarn will be laid in exactly the same position on the circumference, and will result in a piling which is called a ribbon. To avoid this condition, the speed of the camshaft is varied intermittently about 200 r. p. m. so that the ratio between the traverse and the package is always changing. When such a diameter is reached that a ribbon would be formed, the speed of the traverse changes sufficiently to avoid piling of the yarn. In a similar type of machine the package is driven directly by a cam roll which is ordinarily made from a plastic, and the yarn is guided in the grooves of this cam roll with no traverse guide. In this case, to avoid piling, it is necessary to change the speed of the cam or drive roll very suddenly, so that a package will slip on its surface, thereby interrupting the lay of the yarn and avoiding piling or ribbons.

Both of these types of machines produce fairly constant speed when winding to a tube. The first type produces slightly better results as far as speed is concerned than the second type, since there is a change in speed when it is necessary to slip the package on the driving roll in order to avoid piling. This general type of machine is used primarily for staple yarn such as cotton, wool or mixtures of nylon or rayon with cotton or wool. Continuous filament yarns are better handled on a spindle driven machine. This type of machine also produces a constant angle of wind from the beginning to the end of the package. This angle can be changed very easily by changing the speed of the cam in relation to the drive roll. This is ordinarily varied from nine to 18°. The smaller angles are ordinarily used with fine yarns, and the larger angles with the heavier, coarser yarns.

Precise Wind

The second general type of winding machine is called a precise wind machine. In this the drive is obtained directly from the spindle on which the package is mounted and for ordinary winding is a constant r. p. m. machine. This means that the r. p. m. of the package is always the same ratio to that of the cam which drives the traversing guide. This gives a constant wind ratio, but produces a variable helix angle from the start to the finish of a package. There is no piling at any diameter in this type of machine, since the yarn is always laid the same distance from the preceding layer, no matter what the diameter might be. This machine is used primarily for filament yarn such as rayons and nylons and is found extensively in large rayon producer's plants as well as plants which produce filament yarns for either weaving or knitting.

It is possible to lay consecutive helices of yarn directly beside each other to produce what is called a close wind package. This may also be varied to produce a open wind which is also precise. In other words, the distance between successive helices always remains constant. The close precise wind machine will produce the maximum amount of yarn in a given diameter and length. Most filament yarns, however, used for knitting or weaving are wound on precise wind machines with an open lay. Where very close lay is desired and various diameters of yarn are apt to be wound on a machine, the adjustment between the spindle and the cam is made by the use of a slightly tapered pulley so that the lay may be varied within very close limits.

Spool Wind

There is one more type of yarn package, known as the spool wind. This may be either surface-driven or spindle-driven and is used very widely on the take-up for twisters or any process where the heads, essential on this type of winding, are not a detriment to subsequent processes. The traverse is very slow in relation to the r. p. m. of the spindle, so that the yarn is laid nearly circumferentially around the bobbin and very close. This type of package, of course, would not support itself without the flanges at the end of the spool. Fairly constant yarn speed can be obtained, however, with this type of package.

Constant Speed Problems

It is very often not desirable to wind yarn while driving on the surface, due either to slippage encountered in high tension applications or to the abrasion resulting from frictional contact on very fine delicate yarn. Also, the package formation, particularly with filament yarns, is not desirable on a surface-driven machine. It is, therefore, becoming increasingly more important to devise ways and means of winding at a constant yarn speed on a spindle-driven precise winder.

These constant speed problems arise from various sources in the industry. For example, the take-up from a spinning machine must be at a constant yarn speed. Also, it is necessary to have constant yarn speed when drawing from a twister spindle. There are various processing and drying operations which require a constant yarn speed. There are certain problems when dealing with heavy yarns in the limitations of the supply package. The yarn speed at the outside of the package determines the maximum speed at which it can be taken off from, for example, a skein or a bobbin in which there is a very heavy ballooning action. If the spindle could be speeded up at the beginning or small diameter of a package and gradually reduced until the maximum diameter is reached, then production would be increased considerably.

Winding From Free Supply

Such problems resolve themselves into two basic conditions. First, drawing from a free supply and second, taking up from a constant speed source. The first type of problem is encountered in ordinary coning or tubing operations where a package is being made, drawing directly from a rayon cake, skein, or a twister bobbin. It is sometimes desirable, here, to vary the speed to increase production. It would also be encountered in the take-up from an uptwister and in any case where the yarn is being drawn through some sizing or emulsion process where a constant yarn speed is desirable.

Of course, the surface-driven machine would give approximately constant yarn speed, but this is not desirable or satisfactory for most filament yarns. It is, however, practiced widely on twisters, particularly to spools. In this case, the resulting package is not ordinarily shipped out of the plant. This package would not be desirable for either knitting or creeling for making beams. With an uptwister it is necessary that a constant speed be maintained in order to result in a constant or uniform twist per inch. The number of turns per inch in the yarn is determined by the thread speed as it draws from the supply bobbin which is the twisting unit. This type of machine can also be used to wind an endless package instead of spools, in which case, the traverse must be much faster and a ribbon breaker is essential.

Since the surface-driven type of equipment has not proven satisfactory for filament yarn, it remained to develop a spindle-driven machine with a precise wind ratio for this application. In order to maintain constant yarn speed, it was necessary, of course, for the spindle to slow down as the package built up. It was obvious that some form of variable speed drive had to be applied to the machine which would accurately reduce the speed of the spindle in proportion to the build-up of the yarn on the package. The speed, then, must either be controlled by the package itself or a time cycle arranged to reduce the speed inversely as the package builds up.

In the first method of controlling the speed by package diameter, some form of follower such as a roller contacts the yarn as it is wound on the package, and thereby transmit a signal to the controlling means. Since we are very often

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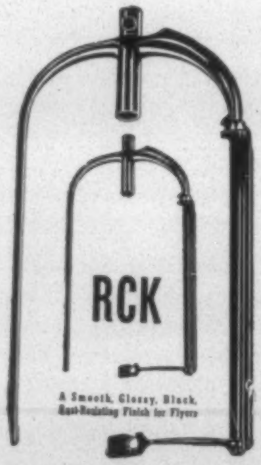
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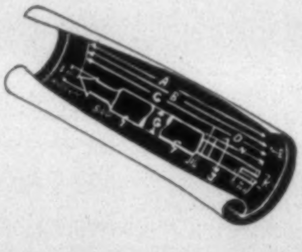

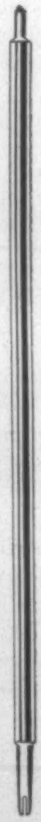

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dealing with very delicate yarns and it is necessary to produce a fairly soft package in some cases, it is essential that this contact be as light as possible. This means that there is very little available mechanical force which may be used to control the variable speed mechanism. Many mechanical variable speed drives now available require entirely too much operating force to allow their use for this type of control.

Electronic Control

One successful method of obtaining accurate yarn speed employs a very light signalling force on the package. In this machine the speed is controlled by an electronic unit, in this case, the Thy-mo-trol developed by General Electric which controls the speed of a d. c. motor with field control. The Thy-mo-trol unit has been reduced to its bare necessities and is rated at one-half horsepower. In this application, a small potentiometer is operated on the opposite side of the traverse guideway and reduces the speed in proportion to the package buildup. The only part contacting the yarn is the guide itself or a pressure roller. There is a large range of speeds available with this unit and with the use of two potentiometers, the level of yarn speed may be set separately from the actual variable speed of the package itself.

One of the important characteristics of a drive for any winding machine is that it have a slow start, so that delicate yarns will not be broken by a sudden start-up. This is handled electrically in this circuit by the use of a resistor-condensor circuit. The relays take care of size stop switches, dropwire switches, start buttons and discharge the r. c. circuit so that a slow start is obtainable immediately after a shutdown. The torque characteristics of this drive are the same for any speed, and it may be run at very low speeds, such as 50 to 75 feet a minute or up to 1,000 feet a minute with this particular circuit. A d. c. source of supply is not necessary for this application, as the incoming current is 220-volt a. c.

This type of control finds applications in many fields. Not only in the fine synthetic yarns, but in heavy carpet yarns as well. In any case in which yarn is drawn from skeins the maximum speed at which winding can be done is determined by the rate at which the skein will pay off. In an ordinary spindle driven machine, this maximum yarn speed is attained only at the finish of the package. If this maximum speed were obtainable at the start of package and the r. p. m. of the spindle gradually reduced a large increase in production per spindle would result. In addition, the operator has at her fingertips the means to reduce the speed so that skeins which run badly may be run at a slower speed, and thereby save much waste. This type of drive, of course, requires one for each spindle.

Mechanical Control

Another method of obtaining constant yarn speed is with the use of some form of variable speed pulley. The ordinary split motor pulley has not proven satisfactory since it requires too much actuating force and does not give uniform enough speed characteristics. The ratios available are also somewhat limited.

This problem has been worked out very satisfactorily where a number of spindles can be started and doffed at the same time. This slide shows an arrangement of one such drive applied to a 36-spindle winder which requires a two h. p. motor. The variable speed unit here is hydraulically controlled and requires a very low operating pressure. Constant yarn speed has been obtained with this type of equipment in two ways: (1) by allowing the first spindle of the bank to be a controlling unit; (2) by providing a time cycle in the drive unit itself entirely independent from any of the spindles. The latter system is particularly effective with the finer counts of yarn where the doff cycles are comparatively long. Small discrepancies in speed or variations caused by down time of the spindles at breaks is negligible over a long doff cycle. For heavier yarns such as tire cord, it is more advantageous to use the first spindle as a controlling unit since much more constant yarn speed will result. One particular installation, for example, had a very long doff cycle, some 12 hours being required to complete a package. The controlling cam was driven from the constant speed side of the variable speed reducer, which necessitated a very large ratio of reduction. This particular speed reducer was 324,000 to 1 ratio. In this case, the cam is reset by the operator at the end of each doff. This unit is also very flexible as there is a chain drive between the speed reducer and the cam-shaft which permits various time cycles, depending on the count of yarn being wound. This type of equipment could be used where a very heavy balloon is the determining factor in yarn speed or where the yarn is being drawn through some emulsion process, or from a twisting spindle. A finished precise wound package of yarn results which can be immediately used in either knitting or creeling for weaving. The one advantage of this type of drive is that only one variable speed unit is required for a multiple number of spindles. It is necessary, however, to start all of the packages at the same time and shut the machine down at the end of the doff. This is common practice on most twisters.

When drawing from a free supply, the tension on the yarn cannot be used for control since there is no restraining force. If it were undesirable to have a follower roll directly on the package, the speed of the yarn could be measured by a tachometer, which in turn would transmit a signal to a controlling device. This would probably be best tied in to an electronic type of unit.

Winding From Constant Speed Source

The other basic constant speed problem is taking up yarn from a constant speed source. This might be a spinning position or a feed roll from a processing chamber, stretching or feed rolls to a down twister or a ring twister or any process which delivers the yarn to the winding machine at a constant rate of speed. Here again, with a spindle-driven machine, it is necessary that the spindle be reduced in speed as the package builds up. However, in this case the control must come from the yarn itself or from a signal originating at the constant speed source.

It is obvious that none of the previously described systems of reducing the speed would be feasible to take up yarn from a driven source, since small variations in speed which are always present would cause either excessive or insufficient tensions. It is essential then, that some provision

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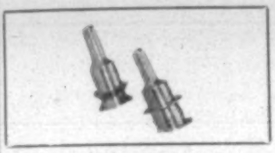

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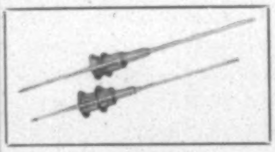

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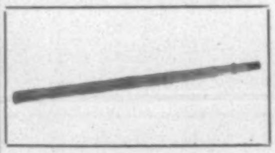

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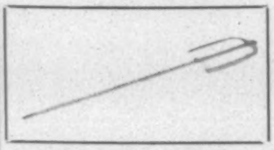

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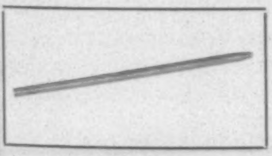

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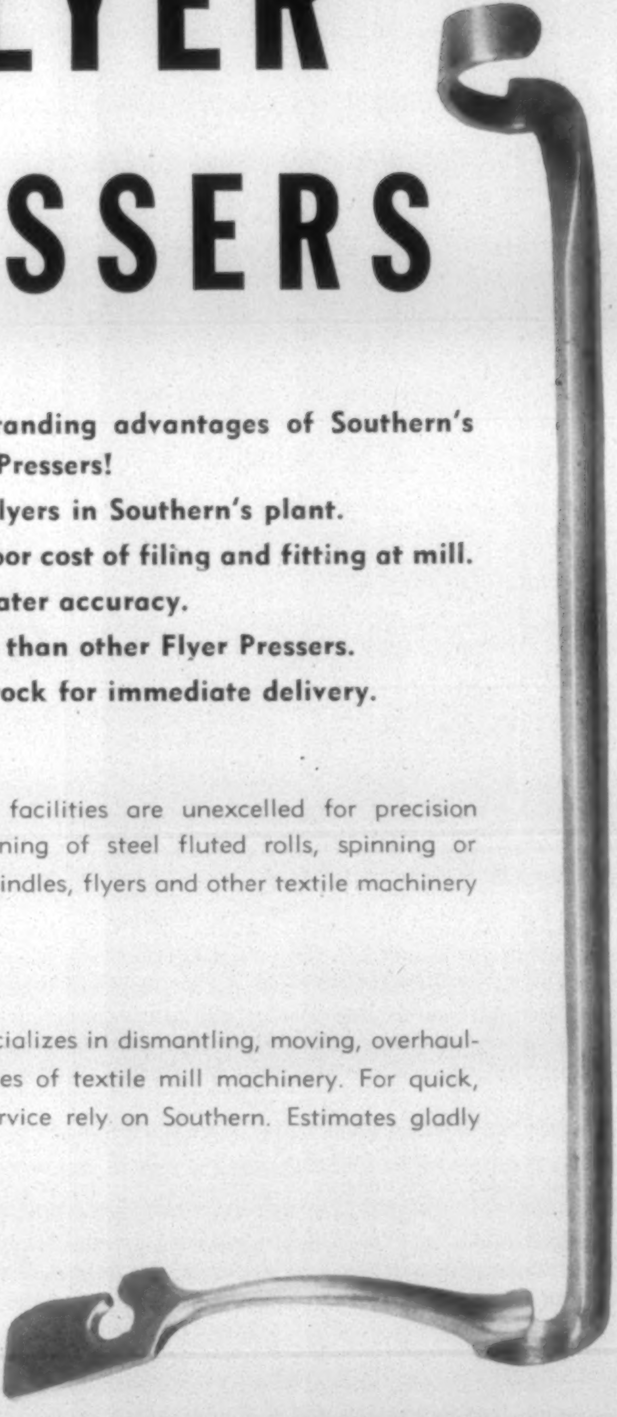

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be made in the take-up unit to provide for these variations. A surface-driven unit does not provide these variations, and in addition, does not make a precise wound package which is essential with practically all filament yarns.

Mechanical Friction Drive

In order to provide for the variations in yarn speed some slippage is necessary in a spindle-driven winder. For years the accepted way of providing this slippage was to use mechanical friction or a slip spindle, such as is used in quillers. Mechanical friction, of course, is very hard to control and the fluctuating tensions do not produce the type of package desired.

In a ring twister spindle, which is a type of constant speed take-up from a constant source, the slippage is provided by the traveler and the spindle takes up the yarn as fast as the feed rolls deliver it. This method is satisfactory for twisting, but does not result in a sale package. The yarn from such a package must be rewound to cones or tubes.

Torque Motor Drive

One of the most successful ways of supplying slippage to a winding spindle is to use an a. c. torque motor. In essence this is a rotating magnet. A typical application is in taking up synthetic yarn to a large diameter spool. In this application a 1/20 h. p. split phase capacitor type motor was used, in which the resistance of the armature had been increased by turning down the end rings. The typical torque curve of this type of motor makes a wide backsweep as the r. p. m. reduces, so that torque available for drive is not a straight line. If the end rings on the motor are turned down to increase the resistance, the torque curve may be flattened out. In addition, the speed of the motor is determined in relation to the yarn speed so that the operating points are on a fairly flat spot of the curve, constant torque characteristics will result and the level of torque may be varied by changing the voltage to the motor. For example, in this case some of the larger yarns required up to 150 grams tension and this was obtained by applying about 90 volts to this motor. It is obvious that if the torque remains constant the tension will slack off slightly as the package builds up. This is desirable since it prevents bulging of the package. In winding some of the finer counts of yarn only 30 to 40 grams tension was necessary, and this was adjusted very accurately by applying a lower voltage. In this case, the stalled torque was practically the same as the running torque. Hence, as the yarn slowed down or stopped, the motor would stop due to the yarn tension and remain stalled until the yarn started again. We experienced no excessive heating, even at long periods of standing in a stalled position. By proper gearing it is possible to run this type of drive at almost any speed up to 2,000 feet a minute. For best results, it is recommended that the ratio of start to finish of the package be kept under 3 to 1.

Another type of take-up uses the same type of motor previously described, but receives its speed control from a dancer roll over which the yarn travels. This dancer roll is connected to a reactor which acts to change the capacitance to the motor thus changing the voltage. Variations in yarn speed are very effectively taken care of with this type of control. The motor always tries to go a little faster than the yarn. This raises the dancer roll, reducing the voltage to the motor thus reducing its speed. As the motor slows down, the dancer roll lowers itself until the voltage is increased and then the motor speeds up. This results in a very constant speed take-up. This type of drive has been very successfully applied to a take-up for a spinning position and is used on fine counts as well as very heavy counts of yarn.

These two systems of constant speed take-up, using an electric motor, have both proven very satisfactory and are a simple answer to this variable speed problem. Another method of accomplishing the same result is with the use of a hydraulic motor in which the slippage can be adjusted by the amount of liquid in the system. Since all constant speed problems differ in some manner, most applications require a special machine and a special study to meet the requirements of a particular yarn being handled.

In summary then, we have the two basic systems available to us to handle all of these winding problems. They are the surface-driven and spindle-driven units. The surface-driven unit is best used on staple yarns such as cotton, wool and mixtures. The spindle-driven unit is most satisfactory for synthetic yarns such as rayon, nylon and other continuous filaments. In addition, we have two basic constant speed problems. They are, winding from a free supply and taking up the yarn from a constant speed source. In winding from a free supply we cannot use the yarn for controlling and hence, must provide some outside variable speed source which is controlled by the package size or set to vary the speed according to a definite time cycle. In taking up from a constant speed source on a spindle-driven machine we have available the system of using a torque motor, a motor controlled by a dancer roll, a slip spindle, a hydraulic motor or any system will allow a slippage to take care of variations in constant yarn speed from the supply. In this case, it is merely necessary to take up the yarn as fast as the yarn comes to it. It is important here with synthetic yarns to maintain the tension at a uniform level.

Practically all constant speed problems resolve themselves into one of the above classifications, although each job usually has to be figured independently. With these basic principles, however, it is possible to find the ideal equipment which will answer the problems of practically all constant speed work.

Mr. Ball contributed his remarks at the Spring meeting of the textile division, American Society of Mechanical Engineers, last month at New London, Conn.

Bail Tie Stain Losses To Be Reduced

Industry-wide co-operation in a campaign initiated last year to eliminate cotton lint losses caused by bale tie stains has been so complete that tie stain damage should be reduced to a minimum in cotton from the 1949 crop, the National Cotton Council said recently. No coated ties have been manufactured since May, 1948, the council reported and consequently it is expected that virtually no coated ties will be used on the 1949 crop. Members of the cotton organization's production and marketing staff explained that in previous years tars from asphalt-coated ties sometimes have made necessary the stripping of several pounds of damaged cotton from bales before the lint could be proc-

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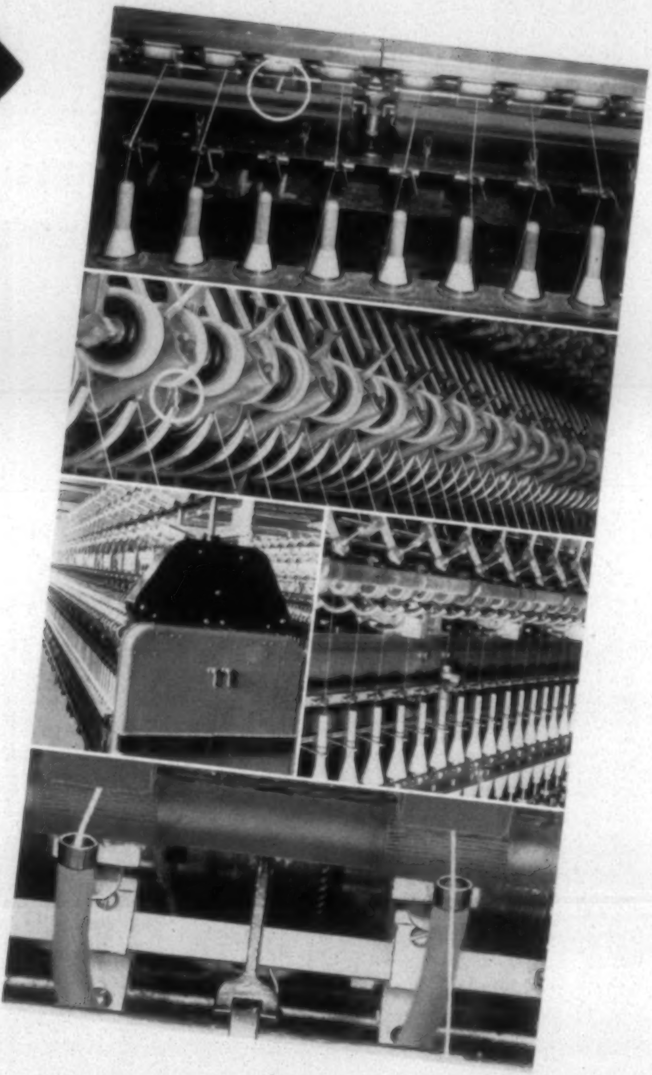

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essed at the mills. Despite care to remove damaged cotton, the council spokesmen continued, bits of asphalt sometimes go through the entire manufacturing process to cause damaged and second grade fabric.

In co-operation with cotton interest organizations the council last year aided in the alleviation of the coated tie situation by working out a method for efficient and low cost cleaning of asphalt coated ties. As a further means of reducing damage caused by the asphalt coated ties the council is enlisting the co-operation of cotton mill operators in disposing of coated ties as scrap metal rather than for reprocessing and use on subsequent crops.

Research also was conducted last year which led to the development of a non-staining tie-coating material. Although the new coating is not being used by tie manufacturers this year, the council said that the product will be available later if it is determined that tie-coating is essential in some parts of the belt. Meantime additional projects are now under way looking to the development of additional non-staining coatings. Although the solution of the bale tie stain problem does not completely solve the problem of stains in raw cotton, council officials said that it does represent substantial progress. To combat other types of stains, the council this season will conduct a thorough campaign against marking bale wrappings with ink, allowing oil to leak into cotton in the gin press, and other practices which result in damaged yarn and fabric at the mill and in generally lowered value of the cotton crop.

THE MILL OF TODAY

By ROBERT Z. WALKER

Part Twelve — A General Outline of Carding

IN the previous sections of this series many details of the sub-assemblies of the various opening machines and of the picker have been described in full. This has been necessary because of the many recent changes in these machines and because the complete function and design of these assemblies are not fully known and understood by all mill men. However, the card has not changed materially for a great number of years and the component parts of the card are generally very familiar to most technicians. Rather than to attempt to deal with the primary functions of the card, which can be learned very readily from any textbook, the finer points concerning the adjustments and maintenance will be discussed.

At all times, in this series, stress has been laid upon the primary truth that the spinning of fine, even yarn is impossible if the product of each preparatory machine is not held within close limits of evenness and regularity. The elimination of a picker operation, a stage of drawing, and process of roving, all of these important strides towards the production of more and better yarn at less cost, may be traced back to the ability of the modern mill to maintain close and accurate control of the weight of the lap, the variation of the sliver, and the size of the roving.

At no point in the mill is this control more important than at the card. If the mill is to produce fine yarn, reduce the number of doublings, and eliminate a process of drawing and roving, it must start with a foundation formed from even laps and good carded sliver. If the card sliver is uneven this defect must be covered up and reduced by increasing doublings at the drawing and roving. This may be expensive and impractical economically, because it may involve re-installing another process of drawing or using two processes of roving instead of one. Any addition of a process will naturally increase the cost of the yarn per pound, through increased labor cost and added floor space per pound of yarn produced, and this will be reflected in a diminished profit. Today, more than ever before, with a highly competitive market and reduced demands, the mill which is to keep in full operation must spin extremely high quality yarn and must produce this yarn at the lowest possible cost. The mill which does not realize the importance of this situation will find itself fast becoming a "marginal mill" and may be foreed in the uncomfortable position of facing a shut-down.

Poor carding may well be responsible for the spinning of yarn which is full of neps and slubs composed of incompletely opened groups of fibers. Such yarn will be weak and uneven, and will not be as good or command as high a price as yarn which is spun from the same grade of stock that has been carded properly on cards that have been kept in the best of condition. Today, when quality is paramount, it is absolutely essential that carding be watched closely. Further, in view of the price of the new cards, it is very important that the cards now in the mill be kept in a good mechanical condition. A card, except for the bearings of the lickerin, doffer, and cylinder and except for the condition of the clothing, will last much longer than any other machine in the mill. Another point to consider is the fact that there have not been any important changes in the design of the card for many years and therefore the card of 1890 or 1900 is no more obsolete than the card of 1949.

A certain knowledge of the card, and the capability of the card, is necessary before the utmost efficiency and satisfaction can be realized. Not only is it vital to know just what the card can do, it is also just as imperative to realize that there are certain limitations of the card, and to recognize these limits. The factors which are definitely limited are the productive capacity, the range of doffer speeds, and both the type and percentage of waste which can be removed during carding. These limits are not absolute and vary in accordance with the conditions existing locally in every mill, but whenever the limits are exceeded there will be a detrimental reflection in the quality of the sliver produced. It should be emphasized that one of the most common faults occurring in many mills is the attempt to increase unduly the hourly production of the individual card.

There are two main factors which have a determining influence upon the production of the card and the efficiency

It Twists

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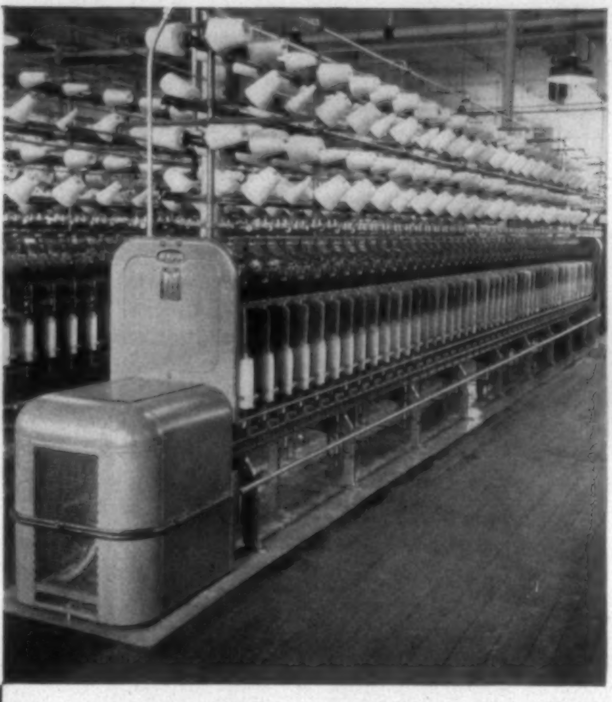
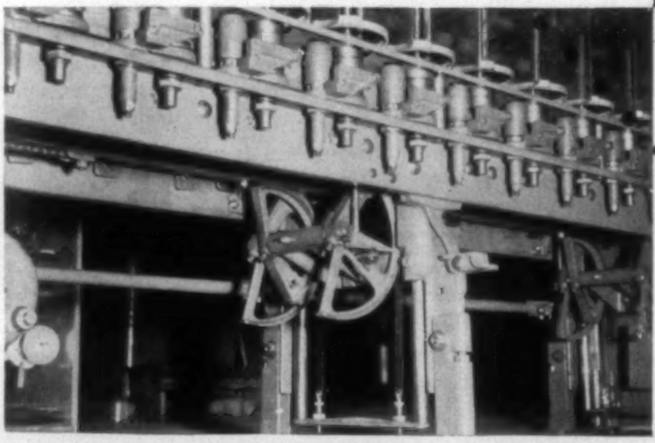
AND
SYNTHETIC YARNS



The Atwood Model 10 Ring Twister is a completely modern machine, sturdily constructed, and designed to produce plied yarns of cotton, woolen and worsted; spun rayon, filament rayon, nylon and combination yarns. Around a basic design that has proved highly successful over the years, the machine has been redesigned for smoother running, reduction in maintenance, and greater ease of operation.



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of the process, and these are: (1) the staple length and grade of the stock; and (2) the counts of yarn to be spun. The production of the card must be suitable for the type of yarn that is to be spun.

As a general rule, spinning finer yarns requires the use of longer staple and a reduction in the hourly production of the card. After considerable research there has been established certain groupings of classes of work which fall within tentatively fixed categories requiring rather definite limits of production and lengths and grades of cotton. While it is very true that the limits and recommendations are not absolute, they are definitely very excellent benchmarks from which to begin establishing local operating standards.

The coarse yarns can be made from the shortest staple lengths of stock, the lowest grades of cotton, and with the highest productive rates of the card. For yarns ranging from 4s to 12s a cotton in a grade of Strict Low Middling to Strict Good Ordinary, and with staple lengths of from three-quarters to one inch, can be used. A high card production of from nine to 12 pounds per hour can be obtained. Middling or Strict Low Middling cotton should be used when spinning the group of yarns from 12s to 20s, and for these counts the staple length should not be shorter than seven-eighths and need not be longer than one inch. A conservative carding rate will range from eight to ten pounds per hour, depending upon the exact count. For spinning counts from 20s to 30s the staple length of the cotton should range from one to 1$\frac{1}{8}$th inch and should be graded as Low Middling or Strict Middling. Probably the best performance of the card will be realized when the production is maintained between six to eight pounds per hour.

As the counts of the yarn becomes finer the carding rate will be reduced and the staple length and grade of cotton increased. Counts of cotton from 30s to 50s should be made from staple 1$\frac{5}{32}$nds inch or longer, graded as Middling or Strict Middling, and carded on a card set to produce from five to eight pounds per hour. Yarns finer in count than 50s require staple lengths of at least 1$\frac{5}{32}$nds inch, Middling cotton, and a low card production of from four to six pounds per hour.

It is perhaps unfortunate that the speed of the doffer effects and partially controls the production of the card. It seems such a simple operation to change this speed and thereby gain, at least theoretically, in the hourly card production. It is very true that speeding up the card doffer will increase the production of the card, but it is very questionable if the over-all production of the mill will gain. As an example of this, a series of tests were made by a group of technicians who increased the speed of the doffer until the standard and satisfactory rate of card production of eight pounds per hour was brought up 50 per cent and then 100 per cent. It was immediately and clearly shown that the ends down per hour at the spinning went up 125 per cent, the breaking strength of the yarn was decreased 25 per cent, and the variation of the sliver was increased 25 per cent. These tests proved that the increase in card production was more than offset by the decrease in spinning efficiency and in the quality of the yarn produced. Also, if the spinning suffered, it follows that the efficiency and quality at both the drawing and roving were effected just as materially and adversely.

The card is a machine which has been proven capable of producing fine quality work on all types of fiber. Therefore, if in some particular instance it is not performing satisfactorily, it is fairly certain that there is some local condition preventing its usual fine operation. This defect may be in the card itself or it may be the result of some outside influence. If the quality of the sliver is poor the first check which should be made is to determine if the stock is suitable for the desired weight of sliver. Secondly, the production of the card should be checked to assure that this is not exceeding the inherent capacity of the machine. There are still other external factors which may be preventing the card from producing satisfactorily; most prominent among these are the condition of the picker, the atmospheric state of the card room, and the general mill conditions. After all of these factors have been checked and approved it is then time to commence a close and thorough inspection of the entire card. It should be borne in mind at all times that the card is a machine which must be adjusted with settings that have to be measured and held to a few thousandths of an inch.

Emphasis has been placed throughout this series that, as good yarn is based on good sliver, it is just as true that good sliver can only be made from a good lap. The formation of a good lap is the main reason for the use of electronic controls and for the other perfections to the machinery in the opening and picking room. By a good lap is meant one in which the stock is well opened, cleaned of the heavy impurities and a large percentage of the lighter trash, with uniform distribution across the width of the lap, and even in weight from the yard to the next and also even from one end of each yard to the other. While it is practically impossible to make a lap which is perfectly even in its length, the lap can and should be held within certain fixed limits. These limits of lap weight variation should be held to at all times and the lap rejected if there is too much variance.

The importance of this is clearly explained when it is realized that there is a draft at the card ranging from 110 to 125, or that every inch of picker lap will be attenuated or drawn out from 110 to 125 inches. With such a tremendous longation of the lap, any small variation of it will be reflected in the sliver at a comparable degree to the drafting accomplished. The general tolerance established by well managed mills is that a lap should not vary more than three-fourths of an ounce either above or below the desired weight. In addition to this, at least 92 per cent of the entire number of yards in any lap should be held within these limits.

By holding the picker lap to the above tolerances, satisfactory evenness of the sliver should be possible. Again using general mill practice figures, the variation of the sliver from the card can be held within certain tolerances. Many mills today are very conscious of quality and are using the sliver tester to check sliver variation. This instrument measures the variation of the sliver and, using simple calculations, enables converting the variation into percentages. Testing on the sliver tester, the card sliver which does not have an average variation of more than 8$\frac{1}{2}$ per cent should be considered excellent; a good sliver will not have an average variation of more than ten per cent; a fair sliver will have a variation of not more than 12 per cent; while a variation of 15 per cent is considered poor. However, before condemning a sliver after checking its variation with the above figures, it should be remembered that these classifications may not be at all applicable to certain mills as there are too many conditions and peculiarities of operation to allow setting up standard and absolute figures which would apply in all cases. The figures are useful in setting up standards which would apply in any one mill, in that they represent the averages resulting from testing and checking the sliver taken from all types of mills operating on all classes of work.

There are other characteristics of a lap other than evenness which can affect to a marked degree the quality of the sliver produced by the card. If the lap is composed of partially unopened cotton it will contain lumps which will cause chokes and, in extreme cases, will damage the wire of the cylinder. While this is caused by underbeating the stock, at the other extreme and equally as bad, is the condition of stock which has been subjected to harsh treatment or overbeating. Fibers which have been overbeaten will be weak, with some fibers broken, and will make sliver that will be weak. There will also be a greater percentage of waste in the form of fly and short fibers.

The room in which the cards are installed may have inherent faults preventing or making difficult the successful operation of them. This is particularly true in mills in which the buildings are old. As an example of this, the floor may be old and weak, or insufficiently supported, and vibration will be set up. A vibrating floor cannot be tolerated in a card room if the maximum efficiency of the machine is to be realized, as good carding depends upon the accuracy and uniformity of the settings at various points on the card. If the card settings are very close, a vibrating floor may cause damage to the card itself by throwing the two sections of the card together.

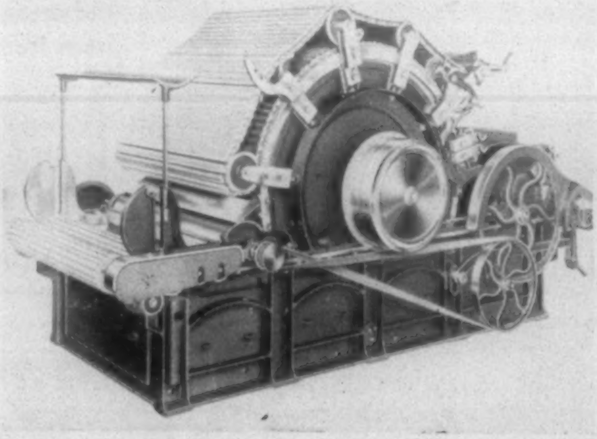
The importance of this can be illustrated by examining the setting of the flats to the cylinder. This setting is sometimes very close, perhaps .009 of an inch, in order to make a very fine web, and it is entirely possible that excessive vibration will close this distance to such an extent that both the flat clothing and the cylinder fillet will become crushed and deformed. The mill, knowing that the floor is not sufficiently stable to permit such close settings, will open the distance and this will automatically decrease the carding action and the quality of the sliver produced.

Another fault, and probably more prominent and prevalent, is the failure of the mill to check periodically the lining and leveling of the card. This is a matter that can be corrected in any mill, regardless of the age and mechanical condition of the cards. The lining and level should be true both across the frame and lengthwise as otherwise there will be undue strain and wear of shafts, binding shafts that will require the use of more power, and incorrect settings. A common complaint with reference to cards is the tendency of fly to blow out of the machine. In many cases this is caused by the incorrectness of the lining and leveling so that the cylinder will be set high on one side and low on the other. When this is so the cylinder will be very close to the doffer, flats, and arch on one side and wide on the other. Naturally, with the strong air currents set up within the card, the air will escape at the wide points and take out good fiber and fly as it escapes. More serious than the escape of the stock is the disturbance of the air current, as the deflection will create an uneven fiber distribution which will be reflected in the evenness and strength of the sliver.

The atmospheric conditions existing in the card room may either aid or deter the performance of the cards. There are rooms which are poorly designed or which are not suitable for the installation of cards because of air currents or drafts that flow through the room. Perhaps, due to elevator shafts or ventilator systems, there will be a current of air crossing the length of the room and blowing directly over a section of the cards. When this occurs, even though the room is conditioned by artificial humidification systems, the cold dry air from the outside will have a marked and detrimental effect on the work done by those particular cards. This cold air, even if it does not touch the cards directly, will place a heavier load on the humidification system and will increase the cost of atmosphere control.

The humidity and temperature of the card room must be carefully controlled by the use of an artificial humidification system. The standard card room atmosphere is usually maintained at a temperature of 65° F. and a relative humidity of from 50 to 55 per cent. Although these figures may vary in some particular instances, too great a departure is not recommended. Static electricity is very likely to become apparent at lower humidities and will create difficulties as the web will tend to stick to the doffer. Higher humidities will cause the web to sag and stretch, and either of these defects will be apparent in the sliver in the form of increased unevenness or variation.

Higher humidities may also be the source of trouble such as the rusting of the internal parts of the card, and particularly the wire of the flats, cylinder, and doffer. Although rusty wire can be brightened by burnishing the original smoothness of the individual will be lost, especially on the side of the needles, and the roughness will catch and hold fibers. When this occurs it is a difficult matter to prevent the card from "loading up" and will require stripping at more frequent intervals. The foundation of the card clothing is likely to deteriorate more quickly if the humidity is high and will begin to stretch and blister, and to lose its necessary elasticity and resiliency. Clothing which is so affected must be replaced at high cost, as good carding cannot be done with poor clothing.



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LOOM RESEARCH—With A Review Of Recent Developments

By V. F. SEPAVITCH, Research Engineering Supervisor
Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS are fascinating and intriguing machines. The mechanisms involved in their operation assume so many varied and different shapes that they try the ingenuity of both engineers and operator. Surprising as these motions may be, they are still basically mechanical in design. Outside of a few simple motions such as the feeders and warp stops, the main attention of the electrical engineer has been centered around the motor. This apparent neglect of the loom by the electrical engineer has not been by choice but has been dictated by economics, operational facilities and design of certain loom mechanisms. While the loom was a comparatively slow operating machine, the use of mechanical engineering was both feasible and proper. However, with the advent of higher speeds, quicker ways of performing given tasks have to be considered. It is natural that the introduction of wider use of electricity, electronics, pneumatics and hydraulics, should follow.

In accepting this task, the electrical engineer has a basic two-fold job to perform. One of these was to carry on basic research to learn the function of each part; the other was to utilize the results of this research in designing the new motions. Such research tools as high-speed cameras, oscillographs, strain gauges, voltmeters, ammeters and wattmeters were employed. With the aid of these instruments, the loom was analyzed.

Take the case of warp beams. Before the advent of synthetic fibers the function of the warp beam was simple. It merely had to provide an adequate storage of yarn which was primarily fuzzy in construction. Loom speeds were slow. The result was that beams of 18 inches in diameter were as large as had to be commonly considered. With the increase in loom speeds and the introduction of filament yarns, the requirements rapidly changed. Accurately adjustable beam flanges, smooth, slick yarns, 24, 26-inch and larger flange diameters, also higher loom speeds, soon showed that the old type of warp beam construction was totally inadequate.

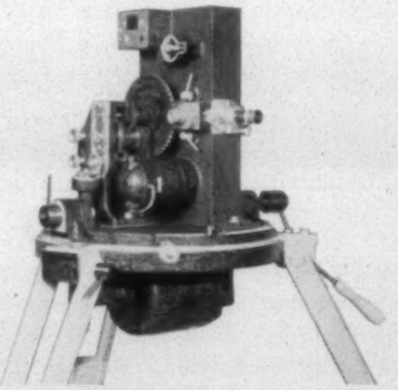
It is a well-known fact that when yarns, such as nylons, are wound onto a beam, the yarns pull tightly into each opening between previously laid yarns, much as sand when poured into a barrel. The pressures thus developed are great indeed. In order to determine these pressures, a warp beam was carefully prepared and equipped with strain gauges, both inside the beam barrel and on the outside of the beam flanges. A total of 26 gauges were employed in this study; 18 gauges being mounted at various points to the outside of the beam flange and eight gauges affixed to the interior of the beam barrel. Connections were brought out from these gauges to a convenient central location for easy reading. The warp utilized was unsized 70-denier nylon, 1,800 yards per end, and 11,000 ends. Warp tension was 25 grams per end. Warp spread was 47⅛ inches between flanges.

In winding the warp onto the beam, measurements were made every 100 yards. When fully wound, the warp measured 18¾ inches in diameter. After the warp beam was prepared, it was placed into the loom and readings were taken as the warp was depleted. In plotting the test data, it was found that the tensile loading on the barrel versus beam diameter, was a straight line and amounted to nearly 20 tons. By extrapolation, loadings of 28 tons and 40 tons would result for 24-inch and 32-inch beam diameters. Coupled with these tests, the beam flanges were loaded in a Tinius Olsen testing machine and tested to failure. Failure occurred at 23½ tons. Thus, if we had loaded the test beam to its full capacity, it would have failed since the pressure of the warp would have been nearly five tons higher than the beam flange strength itself. Moreover, the readings obtained during the weaving portion of the tests, showed that the gauges did not return to their original readings. Indications were that plastic deformation had taken place in both barrel and beam, as elastic limits of the materials were exceeded. With the aid of these tests, new beam designs were developed. The result is that today the flanges and barrels are capable of handling any type of warp up to their given diameters without any danger of failure, or spreading under load.

Other developments concerned themselves with motors and loom drives. Because of the highly pulsating torques imposed by the loom cycle, it was decided to incorporate flywheels and clutches in motor design. Early in 1939 a motor, having a clutch, rotor and flywheel, all mounted on the same shaft, was built and tried. The flywheel was attached to the rotor and coupled through the clutch to the loom. The clutch was of a special design so as to provide instantaneous release of load when protection was indicated. The drive was installed on several looms in a nearby mill for trial. Early results were very promising. Load fluctuations were greatly reduced and the loom operated much more smoothly. After these early results, the loom speeds were increased. And then the roof fell in! Everything went along so long as the loom did not protect. However, when protection occurred, layswords and layends would break.

The reason for this trouble is easy to explain. When a loom is running along in normal fashion with its regular motor, the energy stored in the lay at bottom center position, is dependent upon the motor speed at that time. Since the motor is overloaded by at least 100 per cent, its speed is also lower. However, if a flywheel is now attached to the motor, the instantaneous speed of the motor and lay will be higher. The kinetic energy will also be higher. If protection occurs, then this energy has to be dissipated in as little as six degrees of crankshaft revolution. For a loom operating at 180 picks per minute, this would be only 1/180th of a second. No brake is capable of absorbing this energy in so short a time. The result is that this extra energy will cause the lay to hit the loomside horn with a greater force. It is this greater force at impact that caused all of the trouble.

After these initially disappointing results, attention was devoted to eliminating the principle cause of all these troubles—the protection mechanism. At the same time, investigation in loom operation and motor design was continuing. These tests showed that added flywheel or increased motor slip would help loom performance. There was also the need of providing 1,200 r. p. m. motors for 1,800 r. p. m. drives, as the pinions would be larger and stronger and the loom speed changes, per tooth, of the pinion, would be only two-thirds as great. As a result, one large motor maker introduced flywheels as an integral part of the motor. Tests are being conducted in several large mills to determine the performance and advantage of this type of motor. These flywheels have a dual purpose: (1) to enable a 1,200 r. p. m. motor to replace a 1,800 r. p. m. motor without any loss in flywheel effect; and (2) to determine if a small amount of flywheel can be added to that already present in loom motors without incurring the early troubles previously mentioned.



Crompton & Knowles employs a high-speed camera in studying loom motions.

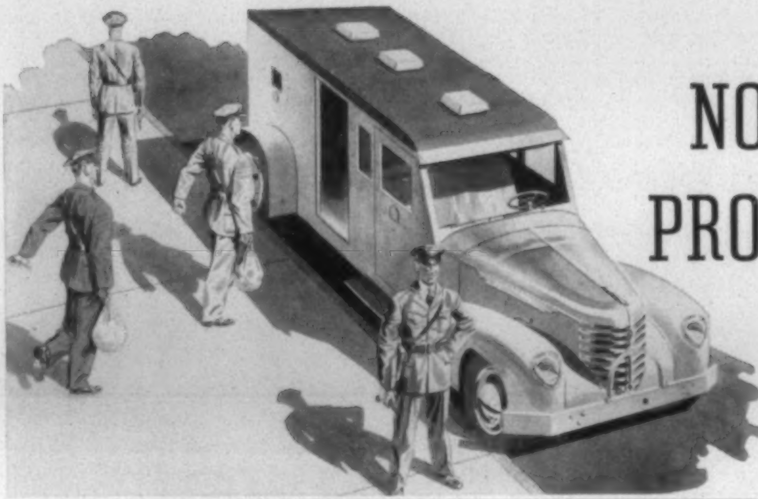
In analyzing the protection mechanism, it was found that because of the extremely short times available, stresses imposed upon loom parts at time of protection, could be as much as 20 times as high as those occurring during normal loom operation. So long as these high impact forces had to be provided for, light metels, higher speeds, flywheel effects and the like, would be relatively expensive. Since the main obstacle is the extremely short time allotted to protection, it was obvious that any benefits that could be gained, would depend upon increasing this available time. Further analysis showed that while the shuttle was in actual flight for about one-half of a crank revolution, i. e., from top center to bottom center crank position, no attempt is made to determine the shuttle's behavior until it is actually coming out of the shed. Coupled with this is the fact that the lay is moving at its maximum velocity at bottom center position with its stored energy at its peak. Still further analysis showed that in practically every instance where protection occurred, there was a fault that could be traced directly back to the start of the pick. faulty boxing, rebounding, broken picking parts, and the like, all meant that the shuttle would never start with the proper velocity or at the correct time when protection resulted. Yet, during the entire time that the shuttle was in the shed, no attempt was made to measure its travel.

Since the shuttle is approximately half way across the lay, at the time the lay is at back center, it is obvious that if protection were indicated at this time, the loom could be easily stopped before bottom center was reached. Moreover, since the lay is at rest at back center, it has no inertia, with the result that a minimum effort has to be exerted in braking the loom to rest. But, how could the shuttle position be indicated? Mechanical devices placed inside the shed would mar fabrics, could easily affect shuttle flight and would be severely handicapped by short lift. The answer lay in electronics. A pick-up was inserted into the lay and a small ferrous plate was inserted into the base of the shuttle. As the shuttle passed over this coil a voltage would be generated within the coil. It is this pulse that is utilized in determining whether a shuttle is moving through the shed at the correct speed and time. Coupled with this is a rotary switch located on the crankshaft. As the loom runs, the rotary switch will open its contacts each revolution, at the time the shuttle is due to pass over the coil. If the shuttle does not pass over the coil at the right time, then the protection operates. However, protection now starts to operate shortly beyond back center and thus allows about 100 degrees for the stopping of the loom instead of the previous six to 12 degrees.

This electronic protection system has been tried on a regular loom and worked well. However, the present mechanical drive is not equipped to take this electronic protection feature. There are other looms that are already quite electrified and can readily take this electronic feature. One of these looms is the felt loom. For this reason, the present applications of electronic protection are confined to this type of loom. Other looms will follow as quickly as possible.

Those that have heard protection act, know the nerve-wracking, jarring, shock that occurs. Contrast a protection stop with a center stop action of the loom. The latter is as easy and quiet as the former is harsh and noisy. Electronic protection gives the same easy, smooth stop to the loom. Desirable as this easy stop may be, it would not be necessary to resort to electronics if this is all that would be gained. The advantages and benefits are far greater than that.

Let us take a look at today's loom, with a particular emphasis upon binder operation. It is the function of this binder to do two distinct jobs. One is to open the protection while the other is to stop the shuttle. Yet these two functions are not compatible. When a binder has moved far enough to have opened the protection, then it has moved too far to provide effective checking. In fact, if a binder is held solidly up against the protection, then it is seen that the shuttle will be entirely free of any contact with the binder, and the shuttle can freely slide in and out of the



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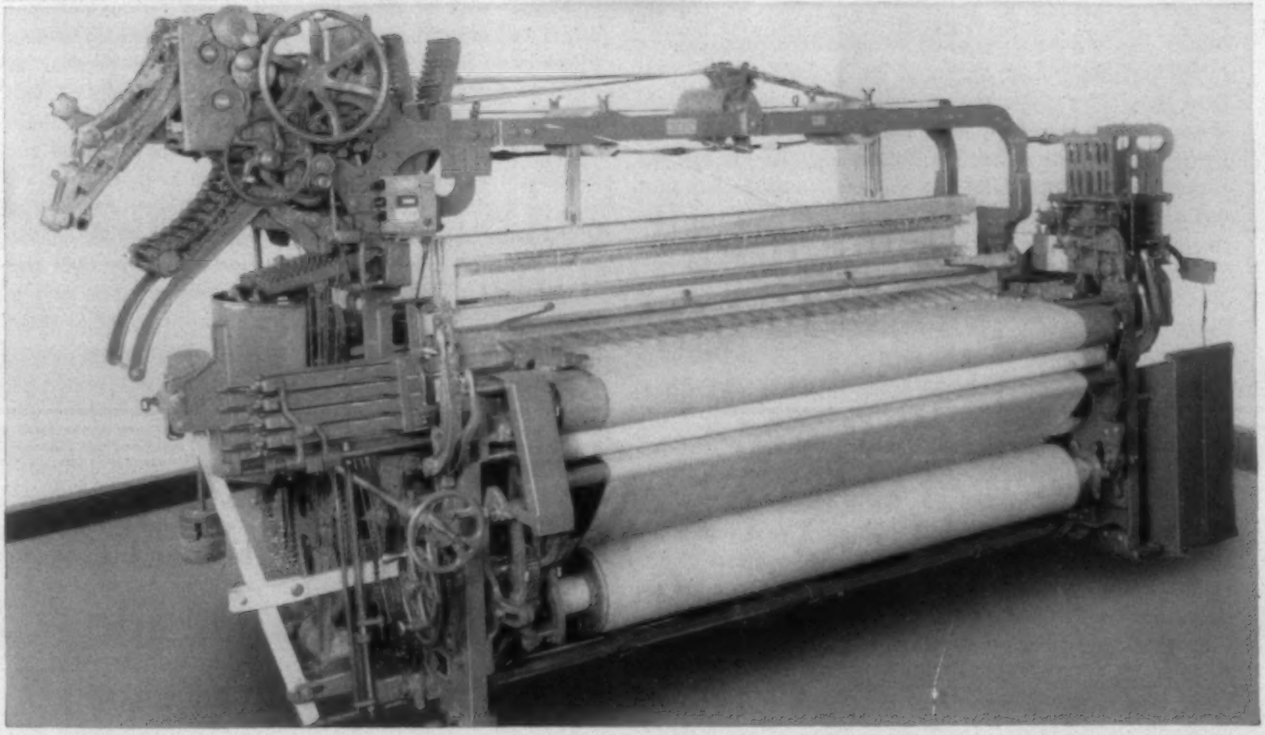

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box. Obviously, a binder in this position offers no checking action to the shuttle.

With this dual function in mind, let us now examine what happens when a shuttle comes into the box. The first impact of the shuttle upon the binder causes the binder to fly open, thus opening the protection. Because the binder is now away from being in contact with the shuttle, the shuttle travels into the box without any checking from the binder at all. It isn't until after the shuttle has traveled one-half to two-thirds of its total distance into the box that the binder is returned to contact the shuttle. But by that time there is so little time left for the shuttle to be boxed and so much energy to be absorbed that the binder alone could not possibly do it effectively. Thus, pickers, picker sticks, and bumpers of various types all appear on the scene. Between them, they succeed in stopping the shuttle. Yet, if the binder had not been required to move for protection, it might have easily done the entire job by itself, for it would have acted over the entire checking travel of the shuttle. While this has been happening to the shuttle, let us not forget to see how the filling has been doing. At the first impact of shuttle upon binder, anywhere from one-fourth to one-half of the stored energy is given up. This rapid exchange of energy between shuttle and binder starts to decelerate the shuttle at such a fast rate that if it were continued, the shuttle would have been stopped in about one-fourth to one-third of its normal travel. It means the shuttle is being stopped at the same rate as though it were operating in a loom running at from three to four times as fast. This same action is repeated once more, with nearly the same values when the shuttle hits the picker as it comes to a stop. Think what this means! A loom could have been operating three to four times as fast without imposing any greater sloughing force on the bobbin, if it were uniformly stopped by the binder over its entire checking travel. Of course, it does not mean that all we have to do is effectively decelerate the shuttle over this checking period and we have three times present loom speeds. No one would be so rash as to say that, but it does mean that definite higher loom speeds should result. How high these increases will be will depend upon the binder and other mechanisms in the loom.

Light metals will be utilized more freely. Rapidly moving parts, such as those found in the laybeam assembly, will be made much lighter as the abnormal strength requirements for protection will be eliminated. In fact, many parts associated with protection and checking will be eliminated entirely.

Another example of loom research and development is found in the present development of electronic let-offs. As beam diameters increased and yarn sizes decreased, and loom speeds increased, it became increasingly evident that some form of positively driven warp let-off utilized. Purely mechanical types presented serious limitations. Inertias became so great at these shortened time intervals that the result was a highly pulsating variation in warp tension. In a system where the tension is produced by the pull of the warp itself, it is evident that if this pull has to move a mass before its increase in tension can be relieved, that the shorter the time the more the inertia becomes and the later the time at which it acts. This meant that frequently the pull of the warp was already over by the time the let-off system moved to relieve the tension. There may be several ways of eliminating this inertia. We will describe one method found most useful. It consists of measuring very accurately a small fraction of the warp and transmitting this electronically to a motor driven let-off. As the warp tension is increased, the motor is started and runs until the tension is released. With this method of operation the warp tension may be regulated very closely during the cycle of loom operation. At the time of beat-up, it was found that the tension had to be held at a higher figure in order to allow the pick to be properly placed. This is easily accomplished by either eliminating the electronic measurement during this time or by using a motor of the proper torque characteristics that it will not immediately follow this rapid tension build-up. Both methods work. The latter is the simpler and is the one used at present.

As may well be appreciated, all of the various developments and experiments cannot be enumerated in so short a discussion. Many of these developments are peculiar to certain fabrics or certain classes of looms. Others are hydraulic, pneumatic or mechanical in design. However, these examples illustrating how electricity and the electrical engineer are contributing to advancing the loom and the art of weaving will serve to show the promising future that lies ahead. To some "the loom may be as extinct as the dodo," but to those who understand and appreciate the loom, it is far from being at the extinct age. It is having some face-lifting done so that it can take its rightful place in today's highly mechanized and electrified society.

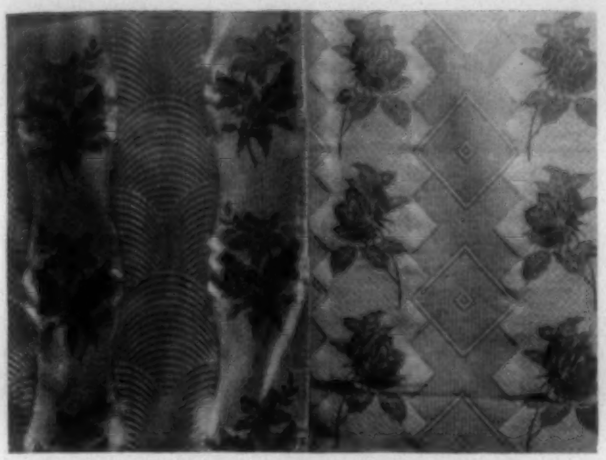
Delivery of Mr. Sepavich's paper was made May 27 before the Conference on Electrical Application for the Textile Industry in Atlanta on the campus of Georgia Institute of Technology. The conference was conducted jointly by the American Institute of Electrical Engineers and the Georgia Tech School of Electrical Engineering. A. French Textile School and Engineering Extension Division.

New End-and-End Bedspread Design

By ALFRED WALLWORK

FOR some time, in my capacity as a public jacquard designer, contacts with manufacturers and selling agents regarding bedspread sketches elicited such comment as this: "Same old thing," "We need something different," "Give us color—the more color the better we'll like it."

With these thought in mind, I began attempts to develop a spread to meet their requirements. First, my efforts were toward adapting new principles to box looms. However, since twice the number of picks had to be used to obtain extra coloring, the size of the figuring was greatly reduced and the production cost soared beyond practical limits. After many experiments I finally developed a new spread, an end-and-end material, by utilizing odd ends for one color, even ends for a second color and obtaining yet another color effect by bringing up both colored ends together. The strip next to the end-and-end stripe effect is brought up in one of the standard colors with a jacquard figure in white cotton or rayon filling. The color of this stripe can be changed on other looms or warps to give the



Two typical bedspreads designed by Alfred Wallwork.

necessary change of color combinations. This style of spread has also been worked out successfully into an all-over end-and-end design.

Presentation of this idea to selling agents created much interest and favorable comment, with the belief that the new spread had definite possibilities. Eagerly, therefore, I carried the sketches to the manufacturers. The reaction from the manufacturers was unfavorable. They were afraid their weavers would be unable to handle the weaving of such a revolutionary type. Not until the idea was outlined to C. F. Harry, Jr., of the Minette Mills, Grover, N. C., was material progress made. Mr. Harry quickly recognized the possibilities and requested that two designs be made of different qualities, one for cotton and the other for rayon. With the co-operation of Mr. Harry, production was begun. So successful were the two spreads that the Minette Mills have been operating full time and are still behind on orders for both spreads and for mattress ticking which is being produced from the same style of designing.

Of the two prints shown, one is for cotton and the other for rayon. Each is so designed as to eliminate the straight line stripe. It should be noted that the cotton spread introduces a very effective honeycomb weave.

Mr. Wallwork, who makes his home at 732 Clement Avenue, Charlotte, N. C., is a native of Great Britain. Just recently a charter of incorporation was granted to the Wallwork Corp., which has been organized to market a patent granted to him for a method of weaving bags of all natural and synthetic fibers. This method of producing bags on the loom completely eliminates all sewing operations.

Capacitance Method Of Measuring Wear

A CONVENIENT, nondestructive method for measurement of the abrasive wear of textiles[1] has been developed by Dr. Herbert F. Schiefer, Lawrence E. Crean, and John F. Krasny of the National Bureau of Standards as part of a program sponsored by the Office of the Quartermaster General, Department of the Army. Depending only on the change in capacitance of the specimen with wear, the method is simple, rapid, and highly sensitive. As capacitance is measured without disturbing the specimen, readings may be taken at frequent intervals during a test and the rate of wear thus evaluated.

Although resistance to abrasion is an important factor in the serviceability of textiles, the laboratory study of this property has been hampered by lack of a satisfactory objective method. In addition to visual estimates of wear and measurements of the time required to abrade completely through a sample, a number of specialized procedures have been devised, based on changes in thickness, air permea-

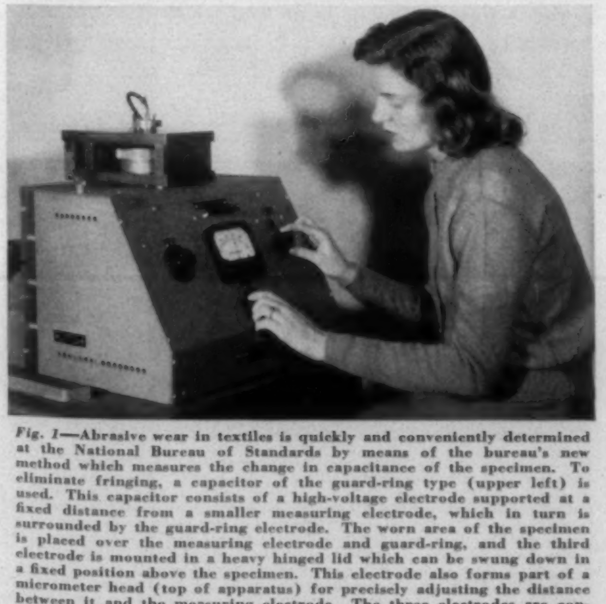


Fig. 1—Abrasive wear in textiles is quickly and conveniently determined at the National Bureau of Standards by means of the bureau's new method which measures the change in capacitance of the specimen. To eliminate fringing, a capacitor of the guard-ring type (upper left) is used. This capacitor consists of a high-voltage electrode supported at a fixed distance from a smaller measuring electrode, which in turn is surrounded by the guard-ring electrode. The worn area of the specimen is placed over the measuring electrode and guard-ring, and the third electrode is mounted in a heavy hinged lid which can be swung down in a fixed position above the specimen. This electrode also forms part of a micrometer head (top of apparatus) for precisely adjusting the distance between it and the measuring electrode. The three electrodes are connected to the terminals of a capacitance-measuring bridge below the capacitor.

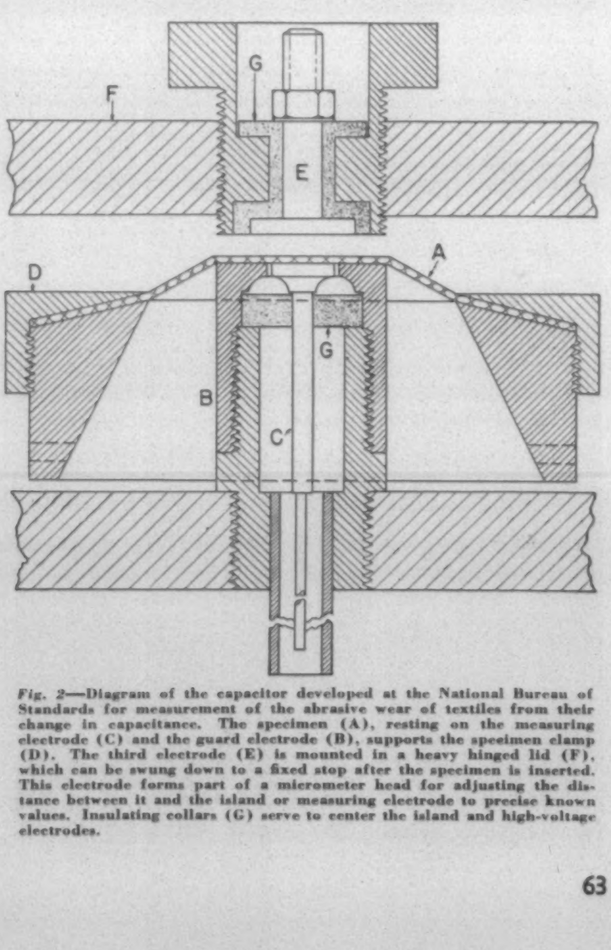
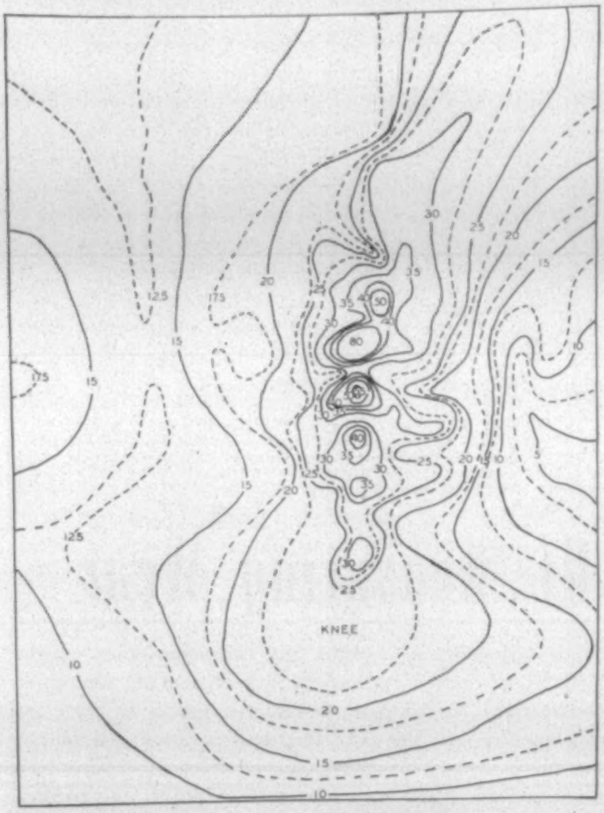
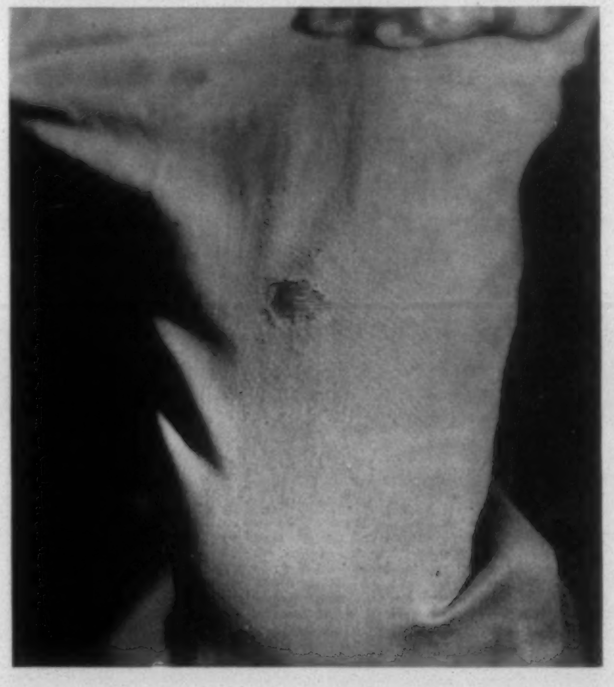


Fig. 2—Diagram of the capacitor developed at the National Bureau of Standards for measurement of the abrasive wear of textiles from their change in capacitance. The specimen (A), resting on the measuring electrode (C) and the guard electrode (B), supports the specimen clamp (D). The third electrode (E) is mounted in a heavy hinged lid (F), which can be swung down to a fixed stop after the specimen is inserted. This electrode forms part of a micrometer head for adjusting the distance between it and the island or measuring electrode to precise known values. Insulating collars (G) serve to center the island and high-voltage electrodes.

bility, light transmission, and breaking strength of the abraded material. However, none of these techniques has proved entirely adequate. Measurement of reduction in breaking strength has been widely used but has the obvious disadvantage that the specimen must be destroyed in order to determine its breaking strength. Thus it is not possible by this method to plot a consistent wear curve with data obtained from a single specimen. Variations in thickness, while of some significance with heavy-pile materials, are not necessarily indicative of wear in ordinary fabrics. Changes in air permeability and light transmission are difficult to interpret in terms of wear since these properties may be altered by flattening of the nap with use. The method developed at the National Bureau of Standards, on the other hand, measures a property of the sample, namely, its capacitance—which is very closely related to the amount of material remaining in the portion of fabric tested. Since the specimen is not destroyed nor altered in any way during the capacitance measurement, a complete set of data may be obtained, showing the rate of abrasion at all times during the life of a single specimen.



Figs. 3 and 4—A method developed at the National Bureau of Standards for analyzing quantitatively the abrasive wear on different parts of a garment is illustrated by the "iso-ruin" map *(Fig. 3)* plotted for the portion of the trouser leg shown in *Fig. 4*. Values of Q, a measure of the percentage destruction or ruin of the material, were obtained from capacitance measurements distributed over the trouser leg, and iso-ruin lines were plotted through points of equal Q. Note the correlation between regions of high Q and areas showing a high degree of wear in service. The iso-ruin map technique also provides a valuable means for exploring the uniformity of textile material and for detecting small changes in the amount of moisture in a fabric.



The new method requires only three capacitance measurements to determine the extent of wear in a specimen over any interval of time. The electrodes of a precision capacitor are first adjusted to be slightly farther apart than the thickness of the thickest specimen to be studied. The capacitance Ca of the intervening air space is then measured. The capacitance Co with the unworn specimen between the electrodes is next obtained, and finally the capacitance CR of the abraded specimen. The measure of destruction or ruin, Q, is then given in percentage by the formula

$$Q = \frac{Co - CR}{Co - Ca} \times 100\%.$$

As the dielectric properties of textiles vary markedly with the percentage of absorbed moisture, the moisture content of the specimen should be kept constant throughout any given series of capacitance measurements by working in a conditioned room.

In the laboratory testing of textiles, CR is taken as the capacitance of a specimen after it has undergone R rotations against the abradant in an abrasion machine. If a number of values of Q are obtained for various values of R, then a wear curve may be plotted which is found to be characteristic of the fabric tested. In general, woven fabrics become unserviceable when Q approaches a value of 50 per cent.

The bureau's apparatus employs a capacitor of the guard-

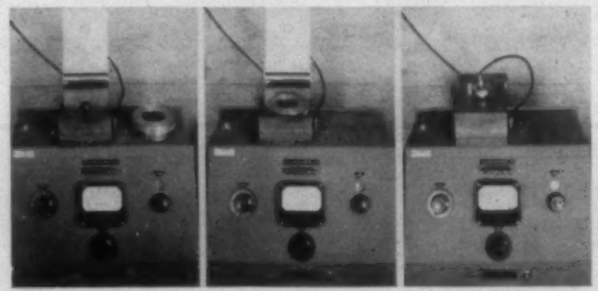


Fig. 5—Three views of the apparatus developed at the National Bureau of Standards for measuring the abrasive wear in a textile specimen from its change in capacitance: *Left*, the small cylinder at left consists of the measuring electrode within a guard ring. Above is the heavy hinged lid containing the high-voltage electrode, and to the right is the specimen clamp with the specimen exposed at its center. The alternating-current bridge below is used to measure capacitance. *Center*, the specimen has been set in place so that it is supported by the measuring electrode and guard ring. *Right*, the high-voltage electrode has been swung down to complete the assembly of the capacitor. This electrode also forms part of a micrometer head (top of apparatus) for precisely adjusting the distance between it and the measuring electrode.

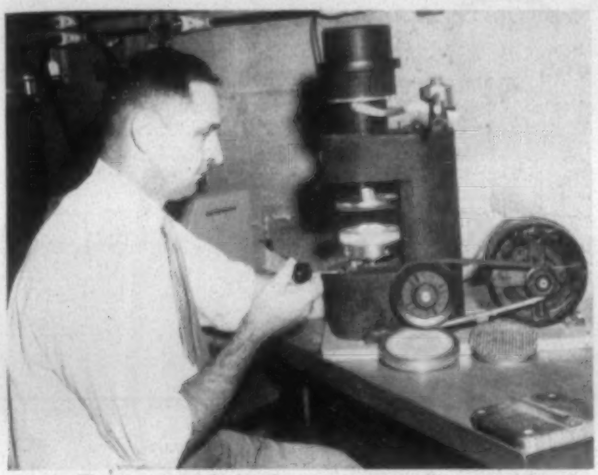


Fig. 6—The improved Schiefer abrasion testing machine designed at the National Bureau of Standards. A plane abradant (above) and a plane area of a fabric (below) are placed in contact under a known pressure. The abradant and specimen rotate in the same direction and with the same angular velocity, but they must not be coaxial. Uniform abrasion is thus produced over the whole area of the specimen from every direction in its plane.

ring type. In this device a high-voltage electrode is supported at a fixed distance from a smaller measuring electrode, which is surrounded by a guard ring to eliminate fringing. The larger electrode is connected to the high-voltage terminal of a bridge, and the measuring electrode and guard ring to the ground-potential terminals of the same instrument. Only that portion of the total flux from the high-voltage electrode which reaches the smaller electrode is measured by the bridge. The island and guard ring are so constructed that the specimen can be clamped with its worn area over these parts. The third electrode is mounted in a heavy hinged lid which can be swung down to a fixed position above the specimen. This electrode forms part of the micrometer head for adjusting the distance between it and the island electrode to precise known values. The capacitor is very heavy and rigid to withstand the shocks of frequent use.

The capacitance method has many applications in addition to its use for simple abrasion testing. It may, for example, be employed as a quick and accurate means for exploring the uniformity of textile materials. Also, it has been found very convenient for measuring quantitatively the wear of different parts of a garment that has been subjected to a service test. Values of Q may be obtained over an entire area of the garment, and a map of the area made by plotting "iso-ruin" lines through points of equal Q.

The capacitance method of measuring wear was developed at the bureau for use with the improved Schiefer abrasion testing machine[1], which has been adapted for testing a large variety of materials under a wide range of conditions. The original model of the machine was designed by Dr. Schiefer in accordance with a mathematical solution to the problem of abrading a specimen uniformly in all directions[2]. This solution requires that plane areas of abradant and specimen, in contact under constant pressure, rotate in the same direction with the same angular velocity but on different axes. The later model has been designed for greater rigidity, and new types of abradants and specimen holders have been developed.

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1) For further details, see "Improved Single-unit Schiefer Abrasion Testing Machine," Herbert F. Schiefer, Lawrence E. Green and John F. Krasny, *National Bureau of Standards Journal of Research*, May, 1949.

2) "Uniform Abrasion in the Testing of Textiles," *N. B. S. Technical News Bulletin*, 31, 70 (1947); see also *N. B. S. Journal of Research*, 39, 1 (1947) RP1807.

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SINCE the opener and picker processes could very well be the bottleneck that might completely stop all production in your plant, it becomes a matter of the greatest importance to make your over-all electrical installation in such a manner as to eliminate the possibility of a fire being started by a bad starter or switch, overloaded and unprotected circuits, short circuits, etc. Therefore, your insurance inspection men are insisting more and more that certain provisions be made to forestall the possibility of a damaging or crippling fire occurring. All of which means less loss of time and production, as well as increased production by virtue of fewer interruptions in this department which might be caused by sparks starting in starters and switches or elsewhere. You see, this loss business works both ways, that is, for both you and your insurance carrier—*they* don't want to have to pay off a big loss, and *you* don't want to lose production. So, we can benefit by their experience in such matters and enjoy more peace of mind from now on.

For such places as we are discussing, the insurance companies have summed up all their experiences in these areas and have come out with their preferably recommended type of motor as being *totally* enclosed, non-ventilated. However, special *textile type*, lint-free motors are acceptable for the time being, although I feel that their preferable type of motor will in the future be the *only* acceptable type, and, I would suggest that you get together with your insurance inspector next time he is around, and talk this over with him.

Motor control equipment, such as panel boards, switches, starters and similar equipment are considered spark producing hazards, and where possible these should be located in an adjoining or less hazardous area, which, of course, brings on more talk on account of the necessity of putting a lock-out push button station at the picker or within sight of the motor or otherwise a non-fusible manual switch as a means of disconnecting the motor from the starter, in accordance with the Underwriter's Code, or the National Electrical Code.

Where it is not possible to install the starting equipment in such a remote location the equipment recommended is listed by the underwriter as being for Class II locations and may be either of the N.E.M.A. Type IV, V, IX, or XII. However, there is also approved for use the N.E.M.A. Class IA, which is a dust-tight starter arranged with a solid front provided with a felt gasket and compression lug screws for holding this cover on tight against the edges of the box. This is designed to keep out lint and flyings as well as the dust which is so prevalent in picker rooms.

Power transformers must not be located in these areas. Lighting transformers may be located within these departments provided they are either Askaral-filled, Chlorextal-filled, or otherwise filled with non-inflammable liquids, or of the dry double-coil type.

Attachment plugs and receptacles shall be located preferably outside of the hazardous area. If near or in the hazardous area use those that are listed for Class II location, conforming to Paragraph 2 of Section 5063 of the National Electrical Code, which says that "receptables and attachment plugs shall be of the polarized type providing for connections to the grounding conductor of the flexible cord and shall be so designed that connection to the supply circuit cannot be made or broken while live parts are exposed."

The type of power wiring must conform to the National Electrical Code Article 500 for Class III, Division 1 locations. All wire is to be in rigid conduit, and of course with threaded joints.

By definition according to the Code, Class III, Division 1 locations are those in which easily ignitible fibers or materials producing combustible flyings are handled, processed, manufactured or used and include rayon, cotton and other textile mills, combustible fiber manufacturing and processing plants, cotton gins and cotton seed oil mills, flax processing plants, clothing manufacturing plants and industries involving similar hazardous processes or conditions.

In discussing this subject let us go back to the matter of transformer installation in such an area and add that these transformers, as mentioned in the paragraph above, shall

Starter and switch group in opening room at Roberta Mills, Concord, N. C. These starters control motors on the blending hoppers, feeder apron and vertical opener. The five light-colored enclosures below the starters are selector switches with "auto-off-manual" control of the hoppers and apron are for automatic control from the hoppers in the picker room; thus the units will operate independently of the picker hopper control. *Left to right* are G. E. Verble, card room overseer; J. D. Marrow, Saco-Lowell erector; and U. G. Hager, foreman for Southern Electric Service Co.

not operate at voltages exceeding 600 volts on either the primary or secondary connections and shall have their windings and terminal connections inclosed in tight metal housings without ventilating openings or otherwise being open with unclosed conduit ports.

In these areas it is recommended that wiring consist only of the necessary circuits to supply the equipment located therein. It is considered bad design and very short foresight to permit main feeder circuits to other areas of the mill to pass through the opener and picker rooms since flash fires might easily damage the conduit lines and cause the complete shutdown of the plant or other areas.

Fittings and boxes in which taps, joints, or terminal connections are made shall be provided with close fitting covers or other effective means to prevent the escape of sparks or other material, and shall have no openings such as holes for attachment screws left vacant through which adjacent combustible material might be ignited.

Flexible connections from conduit to motors on sliding bases and otherwise shall be of flexible metallic conduit or Type S flexible cord with bushed fittings. Where flexible connections are subjected to oil or other corrosive conditions the conductors of the flexible cord shall be of a type approved for the conditions. An additional conductor for grounding shall be provided in the flexible cord unless other means of grounding is provided.

As you well know, all dust rooms must be sprinklered whether they are of the open type, that is with a dust chamber under the whole area of the picker room, or whether your pickers are equipped with return type dust condensers which are connected by pneumatic piping systems to the fans of the pickers, etc.

What this means to you is that with the open-type dust room you cannot safely install power circuits under the picker room floor, that is on the ceiling of the dust chamber even if it is in a sprinklered area because of the hazard involved with possible damage to wire and insulation, etc., by flash fires. In such a case it would be necessary for you to go overhead with your circuits from the starter group, across the ceiling and down to the motors wherever they might be located.

On the other hand, if your picker room is equipped with the return type dust condensers as mentioned above, it means that you are "home free" to run your power circuits from the starter group to the various motors under the floor of the picker room or on the ceiling of the room beneath as long as it is sprinklered.

We recommend very strongly the location of all starters and switches on some clear wall on the picker room on account of compact arrangements and as a means of getting away from the hazard and damaging effects of vibration and mechanical injury given to such equipment when mounted on the machines directly. Too many of you master mechanics have been plagued by excessive maintenance on starters where they have been mounted directly on the pickers, waste machines and other units of machinery in these areas.

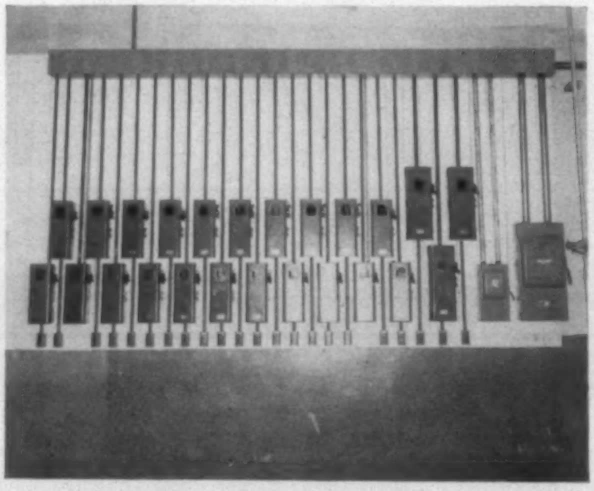
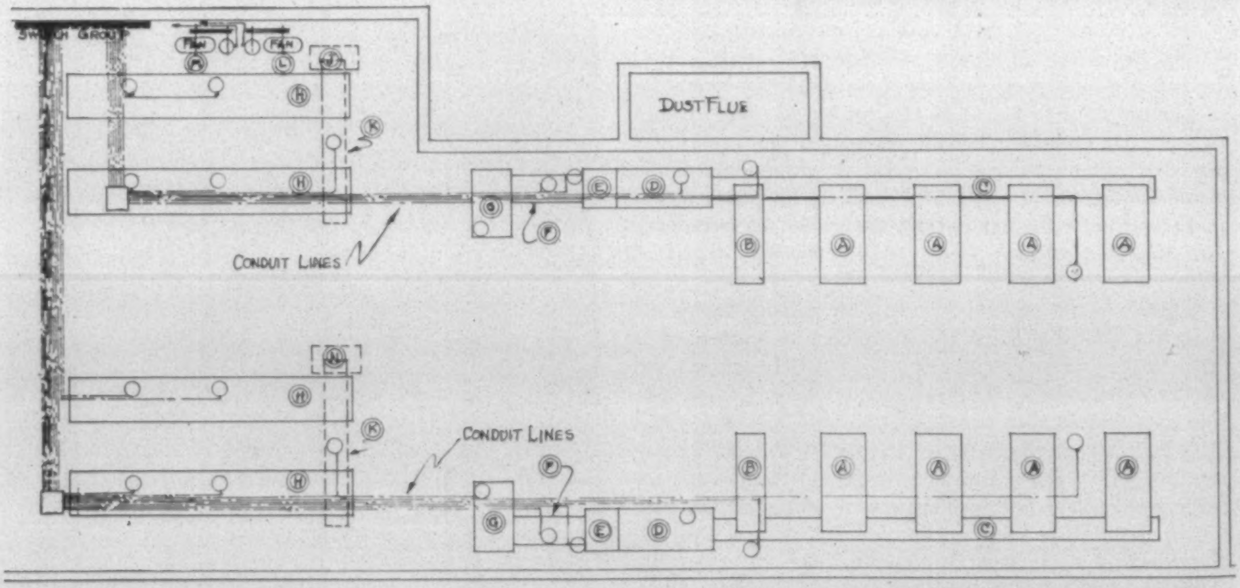


Photo above shows switch group assembly in the Locke Cotton Mills Co. picker room.



Layout of the Locke Cotton Mills Co. picker room. Key: *A* blending hoppers, *B* waste hoppers, *C* cross feed aprons, *D* Superior cleaners (45°), *E* No. 12 lattice openers, *F* cage sections, *G* Centrif-air cleaners, *H* picker hoppers, *J* condenser, *K* Superior distributors, *L* No. 6 fan (1,300 r.p.m.), *M* No. 7 fan (900 r.p.m.) and *N* condenser.

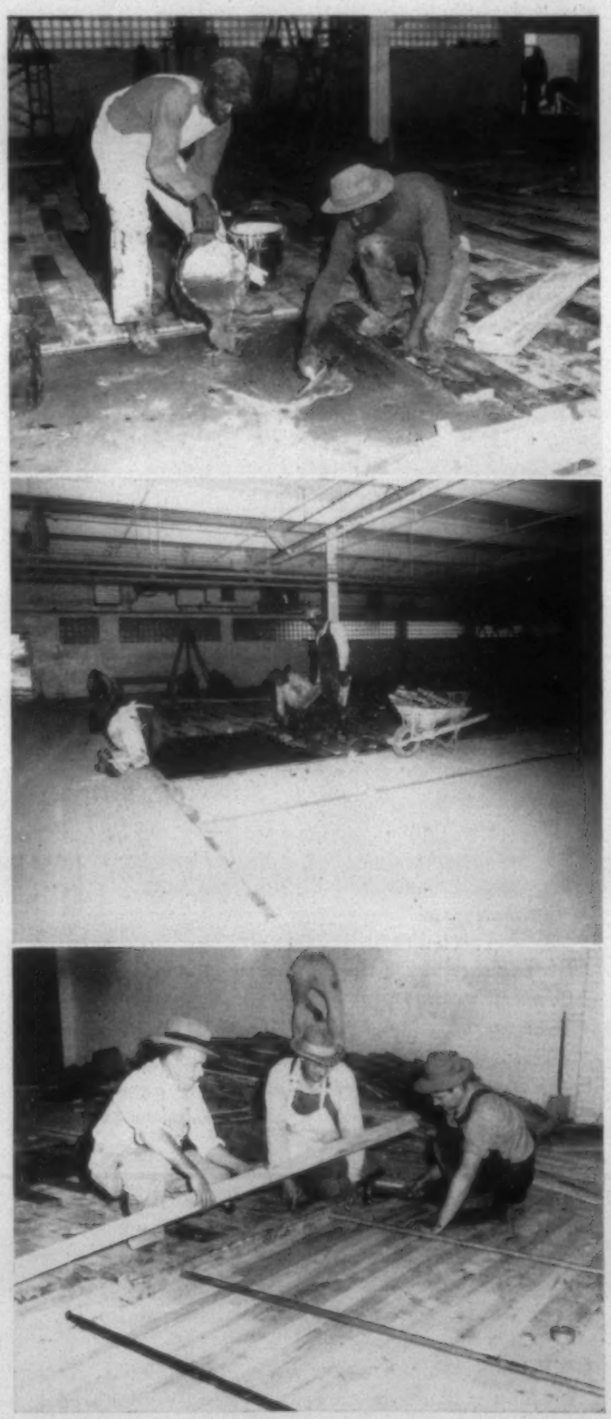
Installation Of Mill Flooring Simplified

A METHOD of installing plank subbase on concrete without use of sleepers has been developed by the Armstrong Cork Co. adhesive department. Under the new installation method, the plank subbase is cemented directly to the concrete by use of a special adhesive. The adhesive method, in addition to removing the need for sleepers, results in a more secure, stable floor. The development is of special significance to the textile industry since textile plants normally use wooden flooring. Usually, the sleepers are imbedded in asphalt or concrete. The plank subbase is nailed to the sleepers and maple flooring nailed to the planking. When the sleepers are imbedded in asphalt, the asphalt tends to become soft in Summer, allowing the floor to move, and brittle in Winter, causing it to crack and break under the vibration of textile machinery and allowing the sleepers to become insecure. In addition, the removal of the sleepers from the asphalt, when new flooring is installed, is quite difficult. When the sleepers are imbedded in concrete, it creates a problem of replacing them when they rot out. They are difficult to remove from the concrete and new concrete has to be poured to hold the new sleepers in place. Using the new method, which has been found completely satisfactory in installations already made, the plank subbase is cemented directly to the concrete by means of a special Armstrong's adhesive. The adhesive forms a moisture barrier between the concrete and the wood. The maple flooring is then nailed to the planking.

The normal procedure for installing a finished wood industrial flooring over a concrete subfloor involves imbedding wood sleepers in the concrete slab at the time the concrete is poured and nailing to these sleepers suitable plank subflooring, and on top of this plank subflooring and at right angles to it nailing the finished wood flooring, which usually is one-inch thick maple. As an alternate to imbedding the sleepers in the concrete slab, they sometimes are set in place in a heavy layer of hot applied asphalt or tar. Sleepers buried in concrete and, consequently subjected to constant moisture and no circulation of air will rot and decay after a period of service. Adhering the sleepers in place with asphalt or tar is not completely satisfactory because asphalt is affected by changes in temperature. The adhesive becomes brittle at low temperatures and soft at elevated temperatures, thus rendering the bond to the subfloor unreliable.

Monocork Adhesive No. 100 has been used satisfactorily in England a number of years for adhering various kinds of flooring, including wood, to concrete sub-bases and to steel sub-bases. There are cases where this adhesive has been used to adhere teakwood decking directly to the steel plates on ships. It has been demonstrated as a satisfactory adhesive to bond end grain wood block to the plank subconstruction on the boardwalk at Atlantic City. Numerous other similar applications are included in our experience with this product.

Southeastern Construction Co. of Charlotte, N. C., investigated the application, which resulted in specification to use Monocork Adhesive No. 100 at Cone Mills Corp., Pineville, N. C., for adhering two-inch thick salt-treated pine subflooring to a concrete slab on grade, on which a one-inch thick maple finished flooring was to be nailed;



***Top* illustration shows workmen applying special adhesive to the concrete slab preparatory to cementing subbase directly to the concrete. This is part of the new installation procedure for wooden flooring in which no sleepers are used. Maple flooring will be nailed to the subbase planking. In *center*, workmen are applying the wooden plank subbase directly on concrete. *Lower* illustration shows workman nailing the surface maple flooring to the plank subbase.**

the procedure which was followed for making this installation was as follows:

Monocork Adhesive No. 100 was supplied in standard five-gallon units which consist of a five-gallon can of Monocork Paste A and a bag containing 65 pounds of Monocork Powder No. 100. Mixing was done manually, using a standard mortar box and hoe. The five-gallon can of paste was first put into the mortar box and the 65 pounds of powder was subsequently added slowly with mixing taking place during the process of adding. Mixing was continued until the composition was free of lumps and of uniform consistency with no unmixed paste or powder remaining visible. A three-man crew carried on the work; one man doing the mixing and carrying, a second man troweling the adhesive on the floor, and a third man placing the two-inch thick planks into the adhesive as soon as the adhesive was spread on the floor. Working in this manner accomplished mixing, spreading, and covering each unit of adhesive in approximately 30 to 45 minutes. Coverage on this particular job approximated 40 square feet per gallon, which is lower than normal. This was due to the roughness of the concrete subbase and the consequent necessity of using a heavier film of the adhesive. The 3,000 square feet of planks were installed in approximately six hours. The following morning the plank subfloor was inspected and found to be held securely in place. An attempt to remove some of these planks resulted in the failure of the wood. The maple floor was nailed in place in the usual manner.

What Is A Plant Engineer?

TEXTILE BULLETIN borrows from *Textile Manufacturer*, English trade journal, the following item in the form of a conversation between father and son, explaining what a plant engineer is:

"What is a plant engineer, dad?"

"A plant engineer, my boy, is a cross between the golden oracle, a witch doctor and a maid-of-all-work."

"Elucidate, dad."

"He is expected to be a fuel engineer, a steam engineer, a water engineer, a gas engineer, an electrical engineer, a mechanical engineer, a constructional engineer, a plant pathologist, a plumber, a diplomat, a mathematician, a strong-arm bloke, a magician and a few other things."

"He's an important chap, then?"

"That depends on the size of the firm, on the boss and on the engineer himself."

"Be more precise, dad."

"At a few places he is the Great White Chief; everybody respects his knowledge and experience and he has supreme authority over the running of the plant. But at many other places he is barely noticed until something goes wrong, then he stands a good chance of getting blamed for it."

"How come, dad?"

"Often he has begun without a technical education and has made the grade the hard way. He may have been seen about the place for so long that he and his good work are taken for granted: it may never have occurred to anybody to give him a real voice in the management of the place. He has a lot of responsibility but precious little authority; he may have many ideas for improvement but has never learnt how to present his case to the management, so the ideas may be either stillborn or put on the shelf."

"But why, dad?"

"All too often the engineer has needed more contact with his own kind, more opportunities to help and be helped, but has had no means of getting these opportunities. He has needed the counsel and co-operation of his management just as much as they have needed his, but there has seldom been any common ground on which they could get together."

"And will it always be like that, dad?"

"Not if we in this country know what's good for us. We will climb out of this hole that we're in all the quicker if these keymen in industry are *recognized* as key men; if the engineer and his management will get to understand better each other's problems and outlook."

Booklet Covers Drainage Control System

The principal advantage of continuous high pressure condensate drainage from steam process equipment with the Cochrane C-B system, according to Cochrane Corp., stemming from its abilty to remove condensate and entrained air as rapidly as it appears in the steam space, is increased heat transfer efficiency. A supplemental advantage is that condensate returned directly to the boiler at the temperature and pressure at which it is formed results in increased feedwater temperature together with the elimination of flash loss due to accumulating condensate in an open or vented receiver. Fuel savings pay for the equipment.

In a Carolina plant tenter frame dryers regularly operated at less than than 250° F. air temperature were able to operate at about 265° F.—speeds were increased nearly ten per cent, Cochrane claims. In another Southern mill a 10,000 pounds per hour steam load was reduced to less than 9,000 pounds per hour because of the greater heat rate provided by the prompt removal of condensate and gases from the drying cans and coils. In a New England mill experiments were conducted to determine the practicability of using available ten psi exhaust steam otherwise wasted in a textile dryer designed for 100 psi operation. A calculated production rate of eight feet per minute was determined in advance. Actual production of this experimental unit, equipped with the Cochrane C-B system, came to nearly 12 feet per minute.

Cite Hazard In Broken Fluorescent Lamps

Personnel in all textile plants, especially those in the maintenance department charged with handling fluorescent lamps, are being cautioned of a serious hazard found to exist in the handling of broken fluorescent lamps. Many such lamps contain from one to four per cent baryllium powder, used to line the interior of the lamp, which recently has been found to be a poisonous substance. If this substance gets into a cut, it usually causes a tumor-like growth and a breaking down of the tissue. These wounds are difficult to heal. The American Association of Industrial Physicians and Surgeons recommends that anyone breaking a fluorescent lamp should receive immediate medical attention to make sure there are not wounds from beryllium contaminated glass.

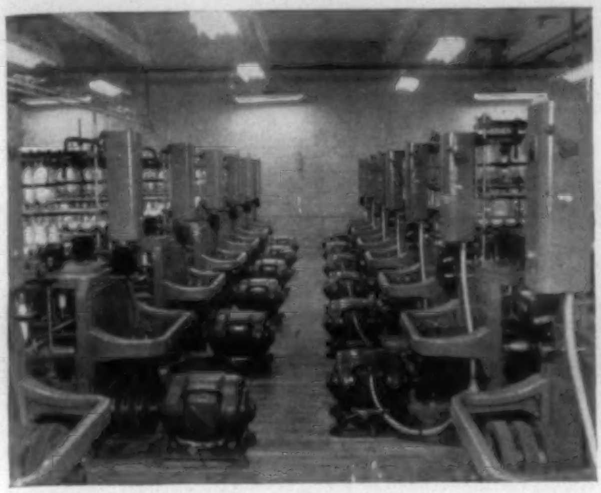


Photo showing complete spinning room installation made by Southern Electric Service Co. in a nearby Gaston County mill.

James T. Meador

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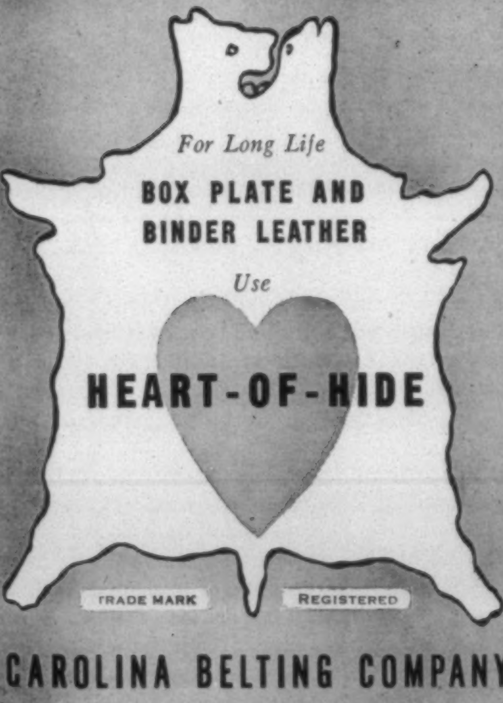

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Fabric Coating With Vinyl Plastisols

By GEORGE B. KOCH, B. F. Goodrich Chemical Co.

THE rapid growth of vinyl plastics for fabric coating has been quite significant during the past decade. One recent development in coating techniques, the use of vinyl pastes, shows great promise of stepping up this growth. I want to bring you up-to-date on the use of this comparatively new material and do it through the medium of a case history. But first I would like to quote a few recently published figures showing increased use of vinyls for fabric coating. In 1939 there was produced approximately 55 million yards of coated fabric, most of which was pyroxylin. Eight years later, in 1947, this figure had jumped to 130 million yards of which 50 million yards was vinyl coated fabric. I might say in passing that in 1947 there was also produced 20 million yards of unsupported vinyl of ten mils thickness and up. The estimates for 1948 were 50 million yards of pyroxylin fabric and 60 million yards of vinyl coated fabric. Note here a drop of nearly 40 per cent for pyroxylin within one year. At least 25 million yards of unsupported vinyl sheet were predicted for 1948. Indications are now that these figures were quite accurate, and that in the next few years vinyl paste will be a major factor in creating additional competition for the well-established pyroxylin business.

Before getting into the case history, I would like to explain briefly a few terms that I will use. A *plastisol* is essentially a dispersion of finely divided resin in liquid plasticizer, without volatile diluent. An *organosol* is similar to a plastisol except for the addition of volatile diluents. Both are generally called "pastes." *Pyroxylin* or *pyroxylin lacquers* are solutions of plasticized nitrocellulose in volatile organic solvents.

The case history I have in mind is about a company in Memphis, Tenn. This company moved into the coated fabrics business shortly after the end of the late war. Their initial work was with pyroxylin coatings, but they soon switched over to vinyl organosols. Our initial contact with this company was made about a year ago. It was a visit by one of our technical sales representatives to get acquainted and discuss the nature of their business. Our representative found that the company was well satisfied with the results of using organosols, but was interested in investigating the advantages of plastisol coating. Samples of our Geon paste resin 121 (then known as 100 X 210) were furnished, and "starting point" recipes were recommended.

The next three or four months might be called the "laboratory stage" of the development. The technical men of this company were getting acquainted with our plastisol resin and its characteristics when mixed with various plasticizers and other compounding ingredients. It is interesting to look at the first problem which arose, since it is one which frequently appears when the coater is getting acquainted with plastisols. Several small batches of plastisol pastes were made up to our "starting point" recipes, and then were shown to the production personnel. Production threw up its hands in horror—"We could never spread pastes this thick on our equipment." This disheartening information was conveyed to our technical representative who hastened to Memphis to investigate. Here is what he found:

The production men had used some "rule-of-thumb" tests which they had learned were quite reliable for checking spreadability of organosols. For example, you dip your finger into the coating material and watch how fast it drips off or whether it runs in a steady stream. These tests are well known and widely accepted by coaters, but you can't apply this method to a plastisol and interpret the results in the same way. Here is why: A plastisol, being simply a dispersion of resin in plasticizer and containing no diluent, is almost invariably more viscous than a "run-of-the-mill" organosol. If the organosol were as thick as the typical plastisol, it would be a pretty sure sign that the organosol had begun to "set up" or gell and could not be successfully spread with standard equipment. The relatively high viscosity of the plastisol, however, does not mean that gelatin has started—nor that the flow characteristics of the paste have been impaired.

In the case-in-point, a small plant run was actually made to convince the production group that plastisols exhibited perfectly satisfactory flow characteristics on their coating machinery. They were also shown that viscosity adjustments can be made by varying the plasticizers in the recipe and that the choice of other compounding ingredients can also have a marked influence on viscosity. After production was convinced that plastisols could be used on their equipment, it then became a problem of tailoring the recipe to their application. To arrive at this point our sales service laboratory co-operated with the laboratory people of this company.

As the company approached commercial application, the "switch-over" problems were discussed. By "switch-over," I mean the change from laboratory scale to production scale coating. Actually the switch-over was a simple matter because a plastisol is a 100 per cent total solids material and there are no problems of evaporation of diluent or solvent. Our friends were very pleased with the results.

You perhaps have been wondering why all the fuss. Why did this company change to organosol coating in the first place and then why to plastisol. The reasons for the first switch are quite obvious. The finished products were far superior to any made from pyroxylin. The disadvantages of poor abrasion resistance, cracking and peeling were elim-

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inated and most important, a non-flammable material was obtained. The problems of toxicity and solvent recovery, while not completely eliminated were reduced.

The reasons for the switch from an organosol to a plastisol coating, while not immediately apparent, are easily explained. These I would like to list in brief, remembering that a plastisol has the same finished product advantages over pyroxylin as does an organosol.

Greater Economy—Simplicity of operations and equipment are characteristic of plastisol methods. The cost is reduced because no solvent or diluent is needed; long mixing cycles are unnessary because of the close particle size control. Workable pastes are made from Geon resin 121 within one to two hours in mixers such as the "change can" or the Baker-Perkins. Film thicknesses up to 25 mils can be produced with only two passes on the coating machine. Four or five passes are generally used with an organosol and up to eight for pyroxylin.

Less Shrinkage—Since there is no solvent or diluent to evaporate during processing, the fused coating is smooth, the finished product pliable, attractive and essentially strain free. Well defined, deep grained embossing is easily obtained.

Safety—Absence of toxic and flammable solvents and diluents assures safer operations and justifies lower insurance rates.

Storage—A plastisol decreases storage problems; it is a 100 per cent total solids material as compared to a 60-70 per cent total solids organosol, where you are storing a good bit of diluent.

Re-use of Material—In fabric coating, a certain amount of coating dope is spilled off the fabric at each side of the knife. When plastisol is being used, this excess can be poured back directly onto the coating machine. However, in the case of an organosol, if the excess is poured back, it tends to cause lumps and other irregularities in the coating. This can be traced to loss of diluent due to evaporation.

The story of a commercial development such as this is not all sunshine and smiles. There were problems which caused a lot of head-scratching from time to time. One of them is worth describing. There was the problem of obtaining the desired coating weight in just two passes instead of creeping up on it in four or more "light" passes as they had been accustomed to doing with organosols and pyroxylin. A custom coater, such as this company, cannot deposit too light a coating—the customers won't accept it. And they can't afford an overweight coating. Cost then becomes a factor. Since five or six passes are necessary with an organosol the thickness is easily adjusted from one coat to the next. However, shrinkage is a problem. Getting the desired thickness with a plastisol is not too tough a problem, but your settings have to be accurate since only one or two passes reduce the chance of compensating for error. The remedy here is operator training and greater equipment precision.

Some of the advantages of plastisols separate from the case history just discussed will give you an idea of the latitude of this type product. To supplement calender coating, plastisols provide an economical method of producing custom coated materials. Fabric shrinkage, distortion, strain and resin heat history are minimized. With the proper choice of plasticizers and fillers, loaded formulations may be used to reduce cost with no differences in coating efficiency.

We sincerely believe that plastisols have a bright future in the fabric coating field. Plastisols are out of the "laboratory stage." They have arrived.

A Society of the Plastics Industry conference heard Mr. Koch deliver the foregoing paper this Spring.

Some Textile Uses Of Sodium Silicates

By REYNOLD C. MERRILL, Research Manager, Philadelphia Quartz Co.

SODIUM silicates are systems containing varying proportions of sodium oxide (Na_2O) and silica (SiO_2) usually with at least some water. More than 40 products containing these three constituents are commercially available and at least ten crystalline sodium silicates are known. Those silicates of most interest to the textile industry are the crystalline sodium sesquisilicate, the crystalline sodium metasilicate pentahydrate and silicate solutions with silica to alkali (Na_2O) ratio by weight of 1.6, 2.0, 2.5 and 3.2. Silica sols prepared by acidifying the sodium silicates followed by various other special treatments have recently assumed commercial importance for treating textiles.

Many important uses of silicates in the textile industry result from the fact that silicates are good detergents and that a mixture of silicates with soap or one of the newer synthetic organic detergents is better than either alone. Silicates of differing silica to alkali ratios provide a means of obtaining a controlled, buffered pH anywhere in the range of 9.5 to 14. This alkalinity is sufficient to remove from the textiel fiber many of the various types of impurities ordinarily encountered, such as pectins, waxes, hemicellulose, fatty acids, proteins and various types of oils, etc. A definite advantage of the soluble silicates over other alkalies is their ability to prevent the deposition or redeposition of various types of dirts on fabrics. Their ability to suspend dirts is comparable with that of the soaps and occurs over a wider range of concentrations and at higher dilutions. In the kier boiling of cotton, one-third of the soap ordinarily used can be replaced with sodium metasilicate to give improved whites and better bottoms at lower cost. The use of silicates alone or in combination with a wetting agent or detergent gives complete removal of the paste dye in the washing of back grays and increases their life. The addition of silicates to various types of scouring operations gives improved dirt removal at lower cost and is particularly valuable for whites and light colors. By using one of the less alkaline silicates, wool yarn and acetate rayon may be scoured. Ordinarily silicates with a silica to alkali ratio of 2.0 or 1.6 is recommended for wool scouring with the addition of soap or synthetic organic detergent. Sodium meta-

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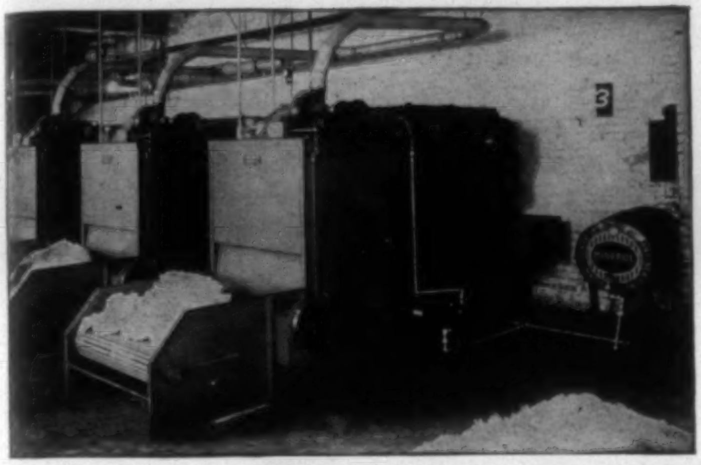

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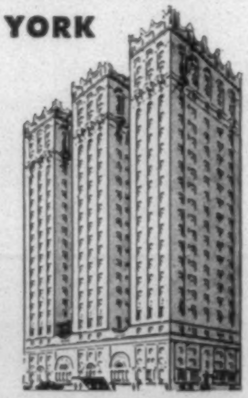

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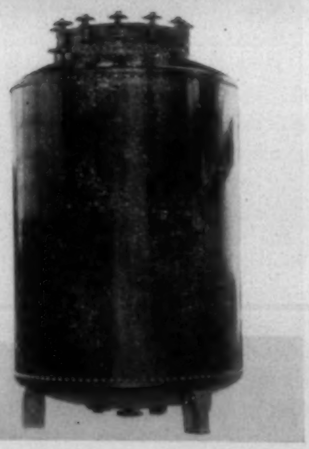

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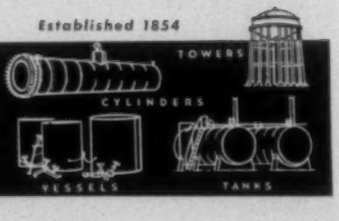


silicate has been used in wool scouring but is not recommended unless the concentrations and temperatures are very carefully controlled. Highly alkaline solutions tend to yellow the ends of the yarn. For degumming silk a combination of an alkyl aryl sulfonate with silicates is preferable to soap alone or soap in combination with other alkalies due to the fact that the finished product is most satisfactory particularly with respect to retaining pliability and elasticity. Silicates are also used for dewaxing and purifying various types of plant fibers such as jute and ramie. In these cases the alkaline sesquisilicate is preferred. The rayon industry uses the detergent action of silicates in scouring both in the box and on the jig as well as in the desulfurizing bath for viscose rayons. The strength of the fiber after scouring is greater when scoured in solutions of silicates than in solutions of other alkali at the same pH and under the same conditions.

A recent development of commercial importance is the successful operation of continuous peroxide-silicate bleaching systems at rates of 250 feet of cloth per minute. The fabric coming from the scouring operation is first rinsed and then run through a scouring solution containing about three per cent of sodium hydroxide and one per cent of silicate to remove impurities. It is then washed and run through another solution containing a mixture of hydrogen peroxide and a silicate. The amounts of silicate and peroxide in this second bath depend upon the type of fabric being bleached. The silicate is present at about the same concentration as the 100 volume hydrogen peroxide. A frequently used concentration is six to eight per cent for both of these based upon the fabric being treated. In addition to assisting in cleaning the cloth by their detergent action, the silicates stabilize the peroxide and prevent decomposition when no bleachable impurity is present. Sodium silicates are also used when fabrics are bleached in kiers with peroxide and in both batch and continuous methods with chlorine or hypochlorite.

Silicates of soda have been used together with tin tetrachloride and phosphates for many years in the weighting of silk fabrics to give them more body and improved draping quality. Rayon and other fabrics may also be weighted for this purpose.

Since it is necessary to prevent fabrics from coming in contact with iron parts, silicates of soda are used for coating the kiers in which the boiling operation is done. The liquid silicates are used to paint the kier and a slurry of white Portland cement or a ten per cent solution of magnesium sulfate is then added to react with the silicate.

New uses for silicates of soda in the rayon industry are for imparting a rough feel to the fabric, to de-luster the skeins of acetate rayon, and to facilitate cutting of pile fabrics of these materials. Other uses of silicates of soda in the textile industry are in the dyeing, boiling and sizing operations, and for fireproofing fabrics such as canvas or duck.

In recent years there has been considerable interest in the application of silica sols to fabrics. Scientific research has shown that the application of a colloidal silica to cotton prior to spinning results in increases as high as 55 per cent in the tensile strength of the finished yarn. Increases of 25 to 35 per cent were common. These strengths were obtained at lower twists than those of the untreated cotton. The strength of the treated cotton skeins at the lowest twist multiple which could be spun exceeded the maximum strength of the untreated cotton. The affect of the colloidal silica was about the same on three-fourths to 1¼-inch cotton staple fiber. The increase in strength of the cotton treated with colloidal silica is not quite so great when woven into yarn and some strength is lost on washing. However, the strength of a treated cotton fabric after washing is still greater than that of the untreated. Tests on cotton fabrics used in bags, ducks, tire cord, and ropes show that these types of materials are stronger when made from the cotton treated with colloidal silica. The colloidal silica also prevents yarn slippage and increases the absorption of water.

The addition of colloidal silica to a rayon fiber makes it possible to use dyes such as regular cotton dyes which could not be used in the original fiber. Silica sols are used with rayon and casein fibers to give a surface roughness resembling that of wool and to increase fire resistance. Cellulose fabrics such as rayon which contain a silica sol together with a plasticizing material such as glycerine are more crease resistant than those without this treatment. Colloidal silica is also used as a mordant for aniline dyes.

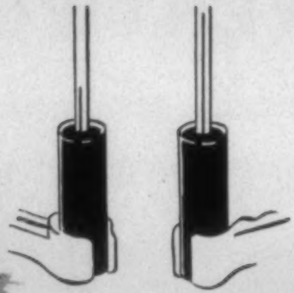
For most operations in the textile industry it is essential to use specially purified silicates rather than the ordinary commercial grades. This is especially true when they are used for peroxide bleaching because the amounts of titanium, iron and other heavy metals present in the regular commercial silicates catalyze decomposition of the peroxide. In addition, impurities in regular commercial silicates may precipitate on heating other dilution and adhere to the cloth.

Much remains to be learned regarding the uses of silicates of soda in the textile industry. However so many uses are well established and many other applications are so promising that it seems likely that these sodium silicates (made from sand and soda ash) will at least in part be responsible for the higher quality and wider variety of fabrics to be available at reasonable cost to the American public.

Mr. Merrill's remarks are abstracted from a paper delivered before the Western Carolinas Section of the American Chemical Society.

A 12-page bulletin (17-8), entitled "PQ Silicates of Soda," has been made available by Philadelphia Quartz Co. The booklet describes popular uses of sodium silicate in textile plants, such as continuous peroxide, kier and chlorine bleaching, kier boiling, back gray washing, kier coating, hardening concrete, sealing shipping containers, silk weighting, scouring operations, soaping off prints, water coagulation, waste water treatment, water corrosion control and wool scouring.

The formula for achieving the brilliance of color that made the Gobelin tapestries world famous has always been a closely guarded secret of the French Government. And when, at one period, some of this traditional color richness appeared lost, frantic investigation revealed that the removal of an old slaughterhouse upstream from the dyeworks on the Seine might be a contributing cause. This proved correct, for when the slaughterhouse was restored the river waters acquired their original chemical content; and the remarkable color brilliance of the tapestries was again evident.—*Dyelines and Bylines.*



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Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PER

Pelham E. Smith has resigned as assistant general manager of the Ware Shoals, S. C., division of Riegel Textile Corp. to join Springs Mills, Inc., New York, as assistant to Robert Amory, vice-president in charge of finished goods sales. He will assume his new duties July 15.

T. W. Kitchen, left, formerly general superintendent of the finishing plant at Dan River Mills, Danville, Va., has been placed in charge of textile machinery Southern sales for Rodney Hunt Machine Co. of Orange, Mass. Mr. Kitchen began his textile career with Joseph Bancroft & Sons, Wilmington, Del., and later was superintendent of plant of North Carolina Finishing Co., Salisbury, N. C. As a base for Mr. Kitchen's operations, Rodney Hunt expects to establish a Southern office in the near future. Expansion of its line of textile finishing machinery has reached such proportions, the company explained, that direct selling has become a necessity. Mr. Kitchen will be available to Southern mills on all problems associated with the installation or operation of textile finishing equipment manufactured by Rodney Hunt Machine Co.

Cecil J. Squires, formerly associated with Fieldcrest Mills, Draper, N. C., has been appointed superintendent of the new Albert J. Bartson plant at Lavonia, Ga.

A. J. Beauchamp, superintendent of Morowebb Cotton Mill Co. at Dallas, N. C., was painfully injured May 25 when he was struck by a truck in Gastonia, N. C.

George S. Pickett of Dunn Woolen Co., Martinsburg, W. Va., recently was elected president of the Shenandoah Valley Textile Executives Association, succeeding Dick Petrie of Oella, Md. Other officers named included Clarence Bender of Virginia Woolen Mills, Winchester, Va., John Burger of Dickey Mills, Oella, Md., and Harry M. Keiter of Varel Mills, Middleway, W. Va., vice-presidents; and Harry Duke of Virginia Woolen Mills, Winchester, secretary-treasurer.

E. E. Routh has retired as vice-president and director of sales for Mathieson Chemical Corp., New York. . . . D. W. Drummond has been named vice-president, director of industrial chemical sales, and S. L. Nevins has been named vice-president, director of agricultural chemical sales. . . . Other appointments are as follows: J. O.
comes sales manager, industrial
R. J. Quinn, assistant sales mana
trial chemicals; J. S. Whitting
manager, agricultural chemicals.
as will be in Houston, Tex., and
and Mr. Whittington will be in
Md. All others will be located i
son's executive offices.

Fred H. White, who recently
general sales manager of Abingto
Machinery Works, announces tha
devote his efforts in the future to
motion and sale of apparatus, inv
himself, for cleaning looms and
frames by vacuum.

Among leaders in the textile field serving as group chairmen during the Greater New York Fund's current campaign are: cotton goods—Donald Tansill, vice-president of Pepperell Mfg. Co.; silks, rayons and yarns—Arthur E. McElfresh, textile consultant; and woolens and worsteds — Richard P. Lardner, vice-president of Forstmann, Inc.

Ernest C. Geier, president of Duplan Corp., was presented a bronze medal in recognition of his 40 years service and leadership in the company at a dinner May 26 in Hazelton, Pa. The medal is the first in a series of Ernest C. Geier merit awards which are to be presented to company employees for outstanding contributions to the benefit of the company.

R. P. (Rex) Bennett has been named head of the newly-created bobbin division of the Formica Co. Mr. Bennett brings with him more than 25 years experience in the textile industry, most of which was devoted to bobbin design and development. In his new position with Formica he will have complete charge of designing, developing and promoting sales of these plastic parts for use in textile manufacture.

J. Roger White, left, vice-president and sales manager of the Formica Co., is shown here with R. P. (Rex) Bennett, who joined Formica June 1 to head the firm's new bobbin division.

B. M. Bowen, left, superintendent of Salisbury (N. C.) Cotton Mill for the past 30 years, has retired under the Cone Mills Corp. retirement plan. Mr. Bowen, well-known in the Southern textile industry, was president of the Southern Textile Association during the 1945-46 term. D. D. Smiley, formerly assistant superintendent, has succeeded Mr. Bowen as superintendent.

John Harden, assistant vice-president and director of public relations at Burlington Mills Corp., Greensboro, N. C., is the author of a book of short stories, *The Devil's Tramping Ground*, recently published by the University of North Carolina Press.

Sidney M. Goldstein recently was elected vice-president of A. D. Juilliard & Co., Inc. Other new officers elected by the board of directors are John S. Thompson, assistant vice-president; Robert Westaway, Jr., assistant vice-president; Frank Conklin, assistant treasurer; and W. Lang, assistant comptroller.

Recent changes in the sales organization of the Rayon Division of E. I. du Pont de Nemours & Co., Inc., follow: V. Ward Smith, who has been assistant director of sales since 1947, will henceforth concentrate on Cordura high-tenacity rayon sales and all indirect sales activities in the division. . . . Ford B. Draper, formerly manager of staple sales, has been named an assistant director of sales to take charge of textile rayon and staple. . . . W. Samuel Carpenter, III, who has been assistant to the director of production, has been appointed assistant manager of Cordura high-tenacity rayon

at Erwin, N. C., recently
president of the Erwin Lions Club.

Lonnie Cummings has been promoted from assistant overseer at the Eva Jane Plant to overseer of weaving at the Catherine Plant of Avondale Mills, Sylacauga, Ala.

J. O. Cobb has resigned as superintendent of LaFayette (Ga.) Cotton Mills.

William H. White, formerly superintendent of Laurens (S. C.) Cotton Mills, has been appointed superintendent of the No. 3 plant in the Republic Cotton Mills Division of J. P. Stevens & Co., Inc. D. B. Stone, who has been acting superintendent for the past several months, resumes his former position as assistant superintendent at Great Falls.

Floyd W. Jefferson, who has spent more than 40 years in the textile business on New York's Worth Street, was honored June 16 at a testimonial dinner given by the textile section of the New York Board of Trade.

Aaron L. Taylor, superintendent for the last four years at Gaffney (S. C.) Mfg. Co., has resigned that post to become general superintendent of Union-Buffalo Mills with plants at Union and Buffalo, S. C. He succeeds John D. Jones at Union-Buffalo.

Walter Dillard, assistant to the president of Monument Mills, Housatonic, Mass., has resigned from that position. Mr. Dillard said he had no immediate plans.

William H. Hoch, a former executive of Whitin Machine Works, has resigned as director of the textiles, fibers and leather division of the National Security Resources Board, but will continue as a part-time consultant to the board.

William H. Ruffin, president and treasurer of Erwin Cotton Mills Co., Durham,

w president of the University
lina Alumni Association. J.
erger, an official of the Bel-
group of mills, was elected
dent of the alumni association.

wder has resigned as superin-
he Nelson Plant of American
cessing Co. and Spun Fibers,
Whitnel, N. C. . . . L. W.
been promoted from assistant
nt to superintendent of the Nel-
succeeding Mr. Crowder. . . .
es, superintendent of the Union
. Y. P. at Maiden, N. C., has
erred to a similar position at
s, Inc., Whitnel. . . . E. H.
s now general manager of the
nt and Spun Fibers, Inc.

S. McKissick, president and treas-
ice Mfg. Co., Easley, S. C., for 25
honored recently by employees of
and presented a desk clock and
set. The presentation was made
rise ceremony prior to a textile
eball game attended by 1,280 em-
the firm.

H. Hodges, vice-president of Mar-
d & Co., Inc., and general manager
rest Mills, Spray, N. C., and Ken-
Tanner, chairman of the board of
er Mills Corp., Spindale, N. C.,
recently were elected vice-presidents of the Medical Foundation of North Carolina at the group's organizational meeting in Chapel Hill, N. C.

Bart Witherspoon, who has been associated with Red Bank Mill, Inc., Lexington, S. C., a division of Convenience, Inc., has resigned from that firm and has joined Gold-Tex Fabric Corp. at Rock Hill, S .C., as office manager.

A. U. Fox, treasurer of American Thread Co., and Luther H. Hodges, vice-president of Marshall Field & Co. and general manager of Fieldcrest Mills, Spray, N. C., were elected to the board of directors of American Thread Co. at its annual meeting recently. Re-elected directors were Pervical S. Howe, Jr., president; Henry C. Rauch, executive vice-president; C. L. Grebneaire, vice-president; and Oscar M. Shaw, a member of the firm of Ropes, Gray, Best, Coolidge & Rugg of Boston.

Leland M. Jones, a member of the Du Pont Co. rayon organization for 16 years, has been appointed plant manager of the Orlon acrylic fiber plant which is now under construction at Camden, S. C. He is planning to establish headquarters there in the Fall. Manufacturing operations are scheduled to begin the latter part of 1950. Mr. Jones joined the Du Pont Co.'s engineering department at Old Hickory, Tenn., in June, 1925, and for the next eight years worked on construction projects at Parlin, N. J., Nemours, W. Va., Mooar, Iowa, Wilmington, and Buffalo, advancing in successive steps from an assistant engineer to field project manager. He was transferred to the rayon organization in May, 1933, as project engineer at the Spruance Plant in Richmond, Va. He later became maintenance supervisor and works engineer at Richmond before he was transferred to the new Orlon acrylic fiber organization in 1947.

William B. Bell, president of American Cyanamid Co., this month received the honorary degree of Doctor of Science from the Philadelphia (Pa.) College of Pharmacy and Science. When the award was made, emphasis was put on Mr. Bell's services in the field of public health and in the stimulation of pharmaceutical research.

Bill G. Ivey, who has represented Spaugh Paper Co. in the eastern North Carolina area for a number of years, is now calling on textile plants in the Charlotte, N. C., area. He is making his Charlotte headquarters at 317 North College Street. Martin Doll is now covering eastern North Carolina for Spaugh Paper from the company's main offices at High Point, N. C.

Thomas Sherrill, who graduated this month from the North Carolina State College School of Textiles, has accepted a position with Chesnee (S. C.) Mills, a division of Reeves Bros., Inc. He is the son of D. E. Sherrill, superintendent of Mills Mill at Woodruff, S. C., another Reeves plant.

Harry A. MacKnight, well known throughout the textile finishing industry for his pioneering and constructive contributions to its progress in improved methods and equipment, has joined Mount Hope Machinery Co., Taunton, Mass., as consulting engineer. He will have charge of the installation of Mount Hope automatic weft straighteners. He and J. D. Robertson, president of Mount Hope, have been separately connected with the development of straighteners since the early '30s when both worked on the first one built.

Thomas D. Russell, president of Russell Mfg. Co., has been elected president of the Alexander City, Ala., school board.

Wallace B. Truitt, president of Truitt Mfg. Co., Greensboro, N. C., firm specializing in metal fabrication for the textile industry, has been elected president of the Greensboro Co-operative Club.

Freeman R. Harris, left, formerly secretary of Standard-Coosa-Thatcher Co., Chattanooga, Tenn., June 13 was appointed vice-president in charge of sales succeeding R. J. Mathewson, who with J. S. Verlenden, chairman of the board, retired in conformity with the company retirement policy. Both Mr. Verlenden and Mr. Mathewson are from Philadelphia, Pa. The office of chairman of the board will remain unoccupied. Mr. Harris joined the firm in 1929 and was elected secretary in 1931. He will make his headquarters in Chattanooga. The present personnel and offices at 123 South Broad Street, Philadelphia, will be maintained as district sales office for the efficient servicing of the company's customers in that territory.

Appointment of Harry R. Reynolds as consulting engineer and Howell L. Potter as his successor in the position of chief engineer has been announced by Fafnir Bearing Co., New Britain, Conn. Mr. Reynolds is one of the pioneers in the American ball

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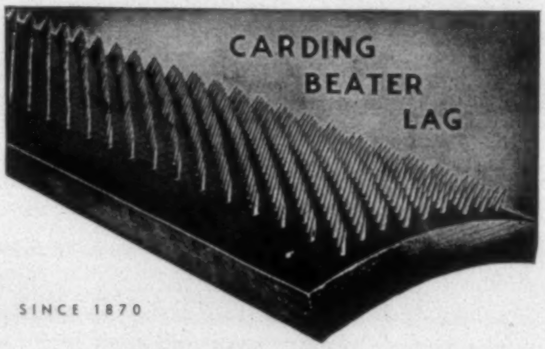

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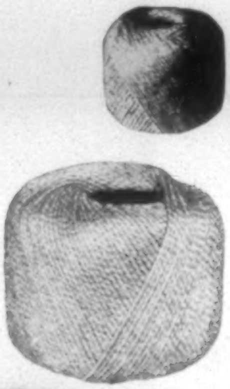

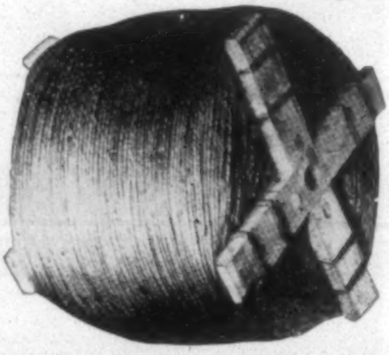

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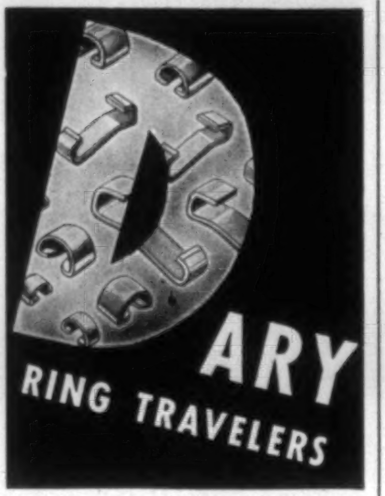

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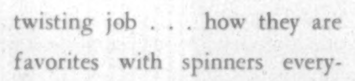

bearing industry, and has been with Fafnir since its founding in 1911. Mr. Potter, formerly assistant chief engineer, has been with the firm 15 years.

J. A. Spooner has resigned as vice-president of Textron, Inc., to become advertising and public relations manager for Burlington Mills Corp. of New York.

George H. Dockray, former textile engineer with the Research Institute at Temple University, has joined the National Cotton Council utilization research division. He will specialize in textile processing and finishing developments.

A. M. Harris of Durham (N. C.) Hosiery Mills has been appointed a member of the 1949 public finance, public safety and utilities commission of the Durham City Council. . . . William F. Carr, vice-president and secretary of Durham Hosiery Mills, recently was honored at a testimonial dinner marking his retirement from the post of mayor of Durham, a civic responsibility he had held for the past 16 years.

Dr. Frank B. Hodgdon, for many years an engineer at the Hawthorne Works of the Western Electric Co. in Chicago, Ill., has accepted an appointment in the research department of the American Lava Corp., manufacturer of technical ceramics, at Chattanooga, Tenn. Dr. Hodgdon is leaving his present position as head of the department of Ceramics at the University of Utah, to accept the position.

Ralph A. Kerr, office manager for American Thread Co. at Dalton, Ga., has been elected president of the Dalton Lions Club.

Ernest H. Dreher, until recently with Mt. Vernon-Woodbury Mills at Baltimore, Md., has established a fiber research and development office at Columbia, S. C. Before resigning from Mt. Vernon-Woodbury Mr. Dreher was with Pacific Mills, and prior to that was a member of the American Viscose Corp. textile research department at Marcus Hook, Pa.

Harry Reimer, editor of *Daily News Record;* William D. Benson, vice-president of Industrial Rayon Corp.; and Abram M. Perlman, president of Abram M. Perlman, Inc., were honored recently by the textile chapter of the American Veterans Committee, being presented with plaques bearing the inscription: "In recognition and in grateful appreciation of his outstanding devotion to the cause of humanity as demonstrated by his unselfish efforts in the field of civic and philanthropic endeavor."

C. Y. Bumgardner, formerly master mechanic at the Springsteen Plant of Springs Cotton Mills at Chester, S. C., has been promoted to superintendent of machinery at the Lancaster, S. C., plant of the firm.

See "Before Closing Down"
for more Personal News

Albert G. Myers, president of Textiles, Inc., Gastonia, N. C., was awarded the honorary degree of Doctor of Textile Science June 12 at commencement exercises of North Carolina State College, Raleigh. . . . Elliott White Springs, president of Springs Cotton Mills, Lancaster, S. C., was awarded the honorary degree of Doctor of Laws at commencement exercises June 6 of the University of South Carolina, Columbia.

William A. Jecusco has been promoted to the position of acting industrial engineer at the Rome, Ga., plant of Celanese Corp. of America. Mr. Jecusco succeeds L. F. Prossen, who has been transferred to the New York office of the firm.

W. B. Croxton has resigned his position as assistant general manager of Robbins (N. C.) Cloth Mills. A graduate of Clemson College, Mr. Croxton formerly was associated with Carter Fabrics Corp. and Dan River Mills.

Marshall Rawle and Harold B. Hoskins recently resigned as executives of Textron, Inc. Mr. Rawle was a director and vice-president in charge of marketing and Mr. Hoskins was a director and marketing consultant.

Ambrose W. Staudt, manager of the nylon technical service section of E. I. du Pont de Nemours & Co., for the last four years, has been appointed manager of the market research section of the company's trade analysis division. Mr. Staudt will be succeeded by George H. Braniff, who has been assistant manager of the nylon technical service section for the last year.

B. Everett Jordan, secretary and treasurer of Sellers Mfg. Co. at Saxapahaw, N. C., recently was elected chairman of the North Carolina Democratic Executive Committee.

William H. Abernethy, a 1942 graduate of Alabama Polytechnic Institute, has been named a special representative of the chemical division of Goodyear Tire & Rubber Co. and will make his headquarters in Birmingham, Ala.

John A. Boland, Jr., who has been associated with Burlington Mills Corp. since his graduation from North Carolina State College in 1937, recently was named division manager of decorative fabrics for the firm. . . . At the same time it was announced that John E. Peterson, on special assignment with the company's decorative fabrics division to organize and co-ordinate the cost, office shipping and statistical controls, will continue to head this phase of the division's work.

Don G. Mitchell, president of Sylvania Electric Products, Inc., New York, has been elected chairman of the executive committee of the American Management Association. . . . James D. Wise, president of Bigelow-Sanford Carpet Co., Inc., New York, was elected to the A. M. A. board of directors.

OBITUARIES

Dickerson G. Baker, 78, retired research engineer of the American Thread Co.

and an authority on filament winding, died May 28 at his home in Holyoke, Mass. Surviving are his wife, a son, a daughter and a sister.

Charlie A. Brower, 65, who retired about a year ago after serving 30 years as superintendent of Little Mfg. Co., Wadesboro, N. C., died recently at his home in Wadesboro. Surviving are seven daughters, three brothers and five sisters.

Robert R. M. Carpenter, Sr., 72, retired vice-president of E. I. du Pont de Nemours & Co., Inc., died June 11 at a hospital in Wilmington, Del. Mr. Carpenter was a member of the group headed by his brother-in-law, Pierre S. du Pont, which formed the Christiana Securities Co. that purchased T. Coleman du Pont's interests in the Du Pont Co. in 1914.

George B. Gossett, 67, maintenance supervisor at Slater Mfg. Co., Inc., Slater, S. C., died suddenly June 4 at the Slater Clinic. Surviving are his wife, five daughters, one son, two brothers and two sisters.

Ambrose L. Lutz, 58, for 25 years master mechanic at Gambrill & Melville Mills Co., Bessemer City, N. C., died June 9. At the time of his death he was a merchant in Bessemer City. Surviving are his wife, three sons, four daughters, one sister and five brothers.

Ernest D. Pitcher, 80, who had 61½ years continuous service with Marshall Field & Co. and Fieldcrest Mills, Spray, N. C., at the time of his retirement July 1, 1946, died May 21 following a heart attack. Mr. Pitcher joined the firm Jan. 31, 1885, as a cashier in the treasurer's department in Chicago and at the time of his retirement was finance officer for Fieldcrest Mills, a division of Marshall Field & Co. He is survived by his wife and a brother.

James H. Porter, 76, vice-president of Bibb Mfg. Co. and widely-known philanthropist as well as church, bank and educational leader, died June 13 at Macon, Ga. He began work for Porterdale (Ga.) Mills at an early age, and continued in various executive capacities when the plant was purchased by Bibb. Survivors include one sister, several nieces and a nephew.

Thomas H. Rennie, 94, who retired in 1936 as a vice-president of Avondale Mills and as general manager of Avondale operations in Pell City, Ala., died recently at his home in Miami, Fla. A native of Maine, Mr. Rennie managed mills in that state and in Graniteville, S. C., before going to Pell City in 1907 to head Pell City Mfg. Co., which was acquired by Avondale in 1912. Surviving are his widow and a daughter.

Smith Styles, 47, superintendent of preparation at Judson Mills, Greenville, S. C., died April 24 after having been in declining health for several months. Mr. Styles had been connected with Judson Mills for ten years and prior to that had been connected with Slater (S. C.) Mfg. Co.

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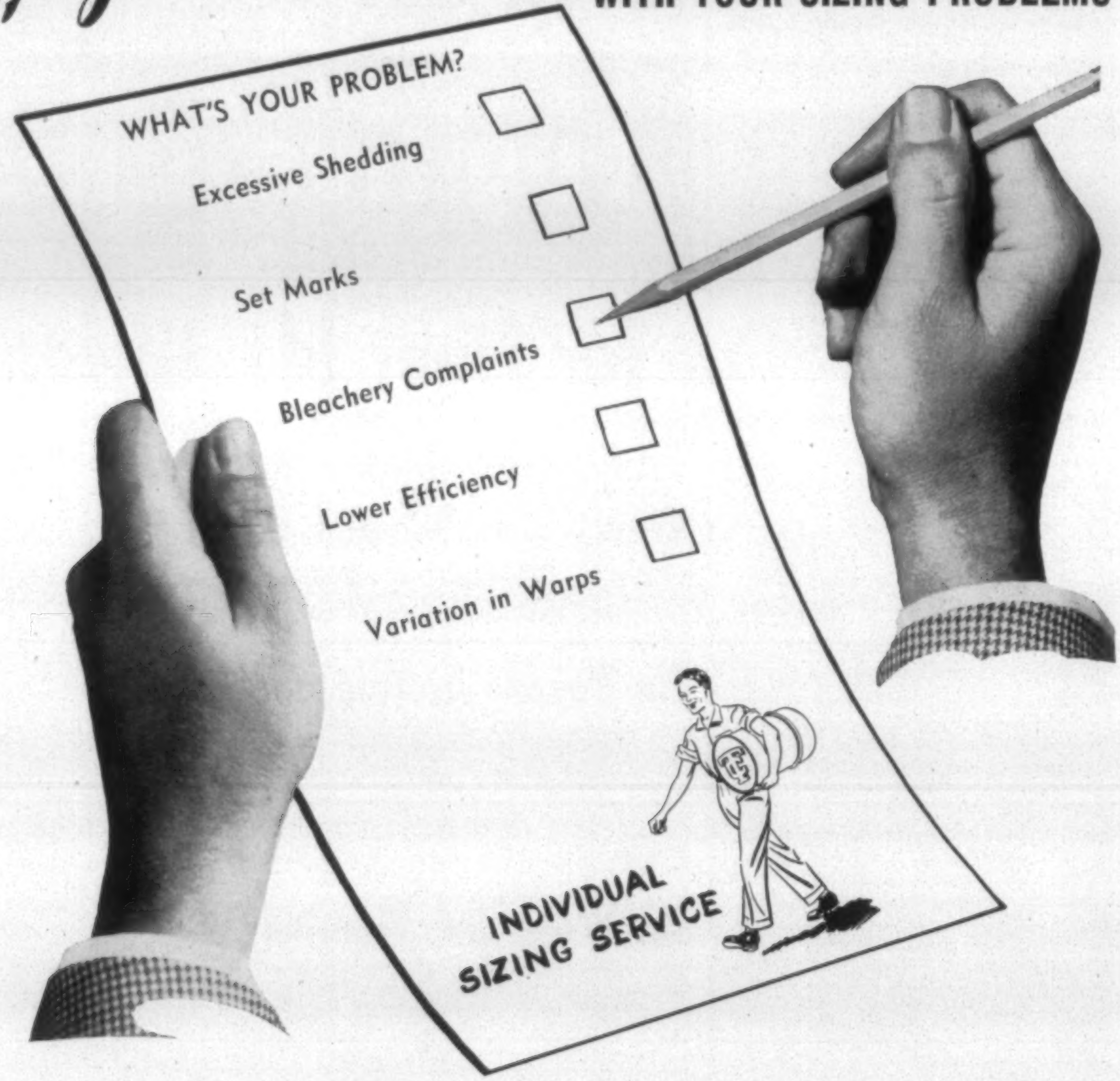

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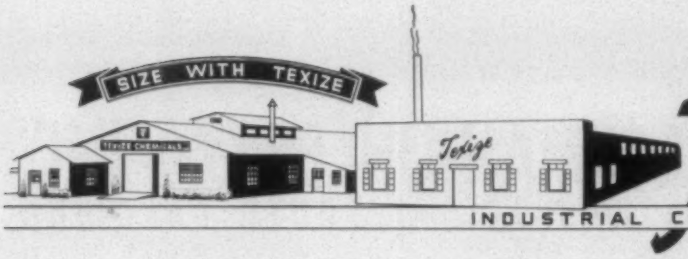

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MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

GAFFNEY, S. C. — Employees of Limestone Mfg. Co. are being offered the opportunity to purchase 189 company-owned houses. Eighty-six houses in the No. 2 village are currently being offered for sale and 103 houses in the No. 1 village will be offered later. Workers may buy the houses with a ten per cent down payment, the balance to be paid over a 12-year period.

GREENVILLE, S. C.—A cotton-testing laboratory for J. P. Stevens & Co., Inc., costing about $30,000, is under construction on Stevens Street in the Dunean Mill village here. Gordon McCabe, formerly a cotton buyer for Stevens, will be in charge of the laboratory.

NEWBERRY, S. C. — Newberry Textile Mills has been acquired by a new organization, Newberry Mills, Inc., of which Sarkis Diarbekirian of New York City is president. Mr. Diarbekirian has extensive textile interests, both in the United States and abroad. James E. Britt continues as general manager and assistant treasurer and George Sessions continues as superintendent of the plant. Other officers of the new organization are Abraham Israelite, treasurer; Arthur J. Brothers, secretary; and Barney Yates, cotton buyer and office manager. While, due to prevailing conditions in the textile industry the mill is now shut down, the new management is reviewing the operating costs and hope that a way will be found to resume operation shortly on a satisfactory basis. The plant normally employs about 1,300 persons, utilizing 48,256 spindles and 1,248 looms in the production of prints.

CLAYTON, N. C.—Bartex Spinning Co. has just completed the following construction and installation of new machinery: New picker room with the Aldrich system; new sub-station by Carolina Power & Light Co. for mill power; five new Universal winders; 43 replacement cards with 12 new additional Whitin cards; 24 drawing frames; three intermediate draft 10-by-5 slubbers; seven 8-by-4 speeders; ten new Whitin spinning frames; four new Whitin combers. Fluorescent lights have been placed over winders and the entire plant will be equipped with fluorescent lights later.

SYLACAUGA, ALA.—The Catherine Plant of Avondale Mills is installing 250 Model XD Draper looms for the manufacture of corduroys.

LAFAYETTE, ALA.—Five new Saco-Lowell openers have recently been installed in the local plant of Avondale Mills, and a complete overhead system of cleaning has been installed in the card room. All spinning frames are run by individual motors. The entire plant is lighted by fluorescent lights.

WILLIAMSTON, S. C.—The sale of 156 mill houses to employees of the Textron Southern, Inc., plant here was completed recently. Sales of homes in the Textron plant village at Anderson, S. C., began several weeks ago.

LEXINGTON, N. C.—Work was started last month on the new dye house at Wennonah Cotton Mills, which is to be an extension of the cloth and finishing addition constructed in 1941. Considerable new dyeing machinery and equipment to supplement that now in use at the mill has been purchased. The company has also purchased 150 new wide looms which will produce cloth capable of finishing 42-inch wide materials.

ROYSTON, GA.—Royston Mills, Inc., will install air changing equipment in the near future at a cost of approximately $60,000, according to General Manager J. R. Davison.

CHARLOTTE, N. C.—Highland Park Mfg. Co. has been authorized to make repairs and improvements in its mill village at an estimated cost of $72,990. The work will include general repairs and plumbing.

GREENVILLE, S. C.—The Monaghan Plant of Victory-Monaghan Co. was awarded a safety banner June 10 in recognition of having operated more than 2,000,000 man-hours without a lost-time accident. Presentation of the award was made at a banquet attended by officials of the firm and selected employees having outstanding safety records. D. W. Broadwell, plant superintendent, accepted the banner from the insurance company and in turn presented it to Belton Wiggins, the employee with the longest record without a lost-time accident—46 years.

JOANNA, S. C.—One hundred seventeen veteran employees of Joanna Cotton Mills Co. were honored at a banquet here June 11. Gold watches were presented to 53 employees who have been with the company 20 years or more, rings to 29 who have 15 years service and pins to 35 with ten years service. The presentations were made by P. B. Mitchell, assistant to the president; Joe L. Delany, superintendent, and W. K. Waits, assistant superintendent.

CAMDEN, S. C.—Contract for piping work at the new Du Pont plant to be constructed here has been awarded to Poe Piping & Heating Co. of Greenville, S. C. Contract for electrical work at the plant has been awarded Standard Electric Co. of Cedar Rapids, Iowa.

YORK, S. C.—It is reported that J. Sullivan & Sons of Philadelphia, manufacturer of narrow fabrics, will establish a branch plant here employing about 100 persons. About 25 stockholders have subscribed toward building a 60 by 50 foot brick building which would be leased to the company. The firm has advised stockholders that 24 looms are ready to be shipped to York and stored until the building is ready for occupancy.

GASTONIA, N. C.—A sales office has been established here by the textile division of United States Rubber Co. to improve customer service in the sale of both carded and combed yarn. The new office is under the supervision of Robert J. Keane. U. S. Rubber Co. operates textile plants in the South at Gastonia, Shelbyville, Tenn., Winnsboro, S. C., Hogansville, Ga., Burlington, N. C., and Scottsville, Va.

STANLEY, N. C.—Rhyne Mfg. Co., Inc., carded yarn manufacturing plant near here, has been closed and is being offered for sale, together with the mill village, consisting of 19 houses. Marshall H. Rhyne, president, attributed the shutdown and decision to sell the plant to "market conditions." The plant has 3,120 ring spindles and 15 cards and employs about 50 persons.

KANNAPOLIS, N. C.—Construction is to start soon on an addition to the office building for Cannon Mills Co. that will more than double the present space. The present office building will comprise the central section of the new structure, with additional wings on the north and south ends. The wings will extend 115 feet to the south and 43 feet to the north. The general contract for construction of the addition has been awarded to Hickory (N. C.) Construction Co.

MONROE, N. C.—Cordene Mills is the name of a new textile plant operating 1,300 spindles on novelty yarns. It is operated as a partnership by French Campbell and B. T. Bumgardner.

GREENSBORO, N. C. — Burlington Mills Corp., at the request of the United States Department of State, has donated two prints of *The Fabric of Our Lives,* company motion picture, for use as part of the Voice of America overseas motion picture program. The film will be circulated by the International Motion Picture Division of the State Department to its representatives in some 15 European countries receiving E. C. A. help for showings to the general public. Believing that E. C. A. can never be completely successful unless the people in countries receiving our aid understand more about the United States and why we are helping them, the State Department has set up a cultural program to do this tremendous job of explanation. Films about American industries are a most important and very popular part of the over-all program, because Europeans are extremely anxious to learn about American production know-how, technical achievements, and—equally important—how the average American makes a living. The State Department has chosen *The Fabric of Our Lives* for this overseas information work because of its technical superiority, and because it presents so outstandingly the story of an American textile company at work. The Burlington film runs for 32 minutes, is in full color and traces the development of Burlington Mills Corp. during the

For additional Mill News,
see "Before Closing Down"

past 25 years. The film, made on location at more than a dozen representative company plants in North Carolina, Virginia, Tennessee and Pennsylvania, outlines the growth of Burlington Mills to its present position as one of the world's largest producers of rayon fabrics. Additional scenes were filmed at the executive offices in Greensboro and at the sales offices in New York. The movie also depicts the important part that Burlington has played in the rise of rayon, the first man-made fabric, from obscurity to a place of major importance in the textile industry.

For The Textile Industry's Use

EQUIPMENT — SUPPLIES — LITERATURE

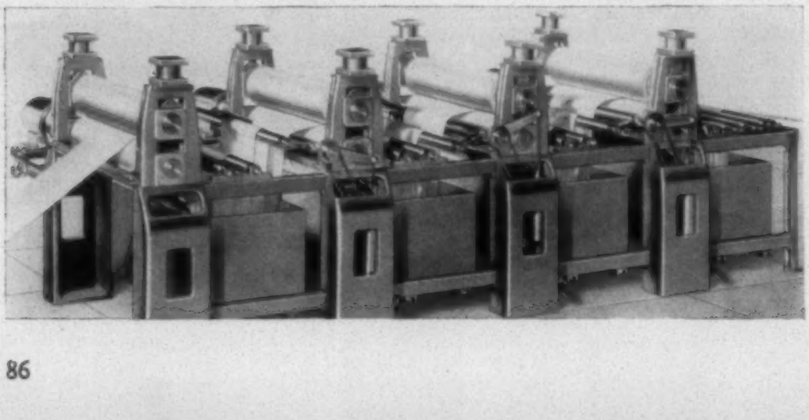
Norcross Corp. Develops New Recording Viscometer

The Norcross Corp., after several years study and research, has developed a recording viscometer for manual or automatic control of viscosity in industrial plants. The instrument is specifically designed to measure automatically the viscosity of solutions in the actual processes where they are used, thus eliminating the necessity of periodically removing samples for laboratory tests. The new Norcross viscometer is said to be particularly applicable in impregnating, coating, spraying, extruding, pumping and blending processes. Bulletin V-1000A, containing a detailed description of the item, is available upon request.

New Compartment Washer Announced By Butterworth

A new compartment washer is announced by H. W. Butterworth & Sons Co. It is a unit construction machine and can be furnished in any multiples of compartments. This unit type construction is said to make the new washer one of the most flexible machines in operation. It can be used in range operation, synchronized with other finishing machinery, or it can be operated independently on washing, processing or dyeing, the firm states. The new machine is designed to operate faster than ordinary compartment washers, handling goods thoroughly and efficiently during washing operations. Different weights of cloth can be run through the new Butterworth washer without "scrimping in" or damaging the goods. Compensating rolls in each compartment have individual drives to control speed and tension during washing operations.

Among the features included in the new Butterworth compartment washer, many of which are new, are: sturdy, streamlined mechanite iron construction; adjustable controls for pressure at each nip; automatic pressure release; mechanism for holding squeeze rolls apart when machine is not operating; stainless steel liquor boxes; protected electrical equipment; foot-operated valves for quick discharge of liquor; plus other outstanding features. The new Butterworth compartment washer is another step in the standardization of wet finishing machinery, providing greater flexibility of operation which will be reflected in better production and lowered costs for finishing plant operators.



Sonoco Co. Develops Insecticidal Paint

An outstanding development giving years of effective control of insects, through the incorporation of DDT directly into oil-base paints, is announced by Sonoco Products Co. These products are said to offer definite advantages over present methods of applying insecticides. After years of research and field tests, two unique interior paints with superior insecticidal properties (a flat paint and a gloss enamel) are now being added to their regular line of protective coatings. Sonoco Products Co. is the first to successfully develop an enamel type paint which is lethal to flies, mosquitoes, roaches, gnats, etc. A semi-gloss enamel will soon be marketed which, together with the flat and gloss, will give a complete line of interior insecticidal paints, insuring control over all common insect pests for extended periods of time.

The Sonoco laboratory and chemical department, in conjunction with independent insecticidal laboratories have now completed series of tests, including practical applications, which definitely prove the effectiveness of these paints against insects for more than three years. Thus, users can expect relief from insects for the normal life of the paint. The possibilities with this type of insecticidal application are tremendous and Sonoco Products Co. feels that it will be of untold value in many industries. The manufacturers stress the fact that "our insecticidal paints are formulated for durability, serviceability, and ease of application as well as for maximum toxicity to insects. They are of as high quality as any other standard paints on the market."

Sonoco is this year celebrating its 50th anniversary in the textile paper carrier field. Its chemical department was established in 1934 with a small laboratory staff. Soon afterwards, a few materials were manufactured, such as lacquer thinners, adhesives, etc. Following in succession came phenol-aldehyde resins, lacquers, printing ink, dyes, and other materials for treating and finishing paper. Out of the lacquer manufacture has grown the paint and lacquer division, which is now ten years old.

Two New Bulletins Are Offered By Foxboro Co.

The Foxboro Co. has recently made available to the industry two new bulletins describing products of the company. In an attractive 32-page bulletin, No. 427, the company presents its complete line of Dynalog instruments for process measurement and control, as well as the various auxiliary devices which adapt these instruments to their many and diverse industrial applications. The bulletin explains the unique all-electronic Dynalog principle of operation, gives details of the simple but sturdy construction of the instruments, and advises as to the choice of resistance-type or EMF-type instruments under varying conditions of installation and use. Instruments shown, with typical chart records in color, include the Multi-Record Dynalog (which makes as many as six separately colored temperature records continuously, on one circular chart); the Segmental Chart Recorder (which makes as many as 24 individual and periodic temperature checks, in sequence, on one chart); the Scanning Recorder (for as many as 24 separate but related temperature measurements, successively recorded); the Dynalog Controller, either with Foxboro Model 40 pneumatic control or Rotax electric control mechanism); and the Dynalog Indicator, for an easily-read measurement of a condition at one process point or, with the multiple-key selector switch, the rapid scanning of as many as 48 such readings.

Sensitive elements illustrated in the bulletin are used with the appropriate Dynalog instrument in the measurement of temper-

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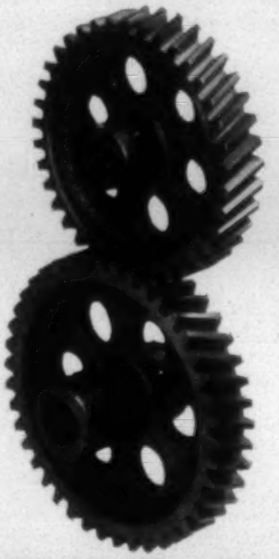

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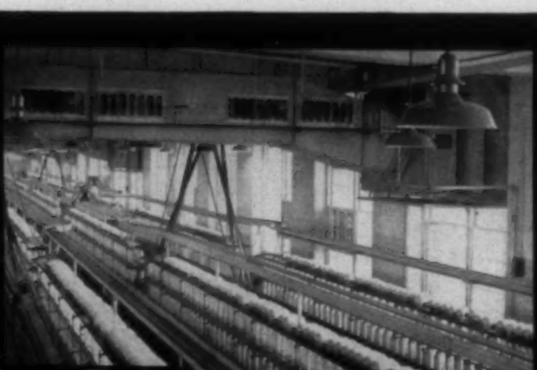

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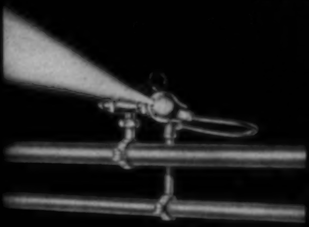

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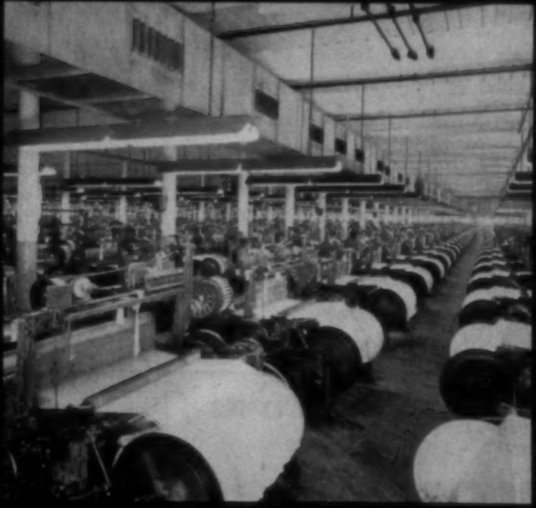

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ature, roll-surface temperature, conductivity, pressure, flow or liquid level, humidity (dew-point), force, position, pH, speed, and other process variables, such as power or voltage. Dimensional drawings and photos of instrument panels give all desired information as to installation of any of the instruments. A section of standard ranges available, and direction to help in the correct selection of an instrument for any application, conclude this very complete bulletin. A copy will be mailed on request.

Bulletin No. 430 describes and illustrates the equipment offered by Foxboro for the measurement and control of pH in industrial processing operations. A foreword gives a clear and simple explanation of the pH value and its effects, good or bad, on product quality, plant efficiency, and operating profits. Case histories are cited from numerous industrial fields to illustrate the importance of dependable pH control. The theory which is applied in actual pH control instrumentation is explained in text and diagrams. Included in the equipment shown are the appropriate standard Foxboro instruments. The various types of pH electrodes available, suiting the installation to any process or operating conditions, are illustrated, and complete specifications, as well as dimensional drawings, are given. The bulletin makes a very timely appearance, for pH has ceased to be a laboratory term but is now appreciated, not only throughout industry but even in agricultural studies, as a factor which must be considered, measured, and controlled at its most favorable value, along with pressure, temperature and the other familiar variables of industrial processing.

Keckley Co. Products Described In Catalog

The O. C. Keckley Co. has just issued its new No. 49, 35th anniversary illustrated catalog featuring—precision pressure regulators, temperature regulators, float valves, self-cleaning strainers, water gauges and steam traps. It includes dimensions, capacities, engineering tables and specifications. This equipment is specially applicable to slashers, drying forms and finishing processes in textiles. Engineers are invited to write for the catalog.

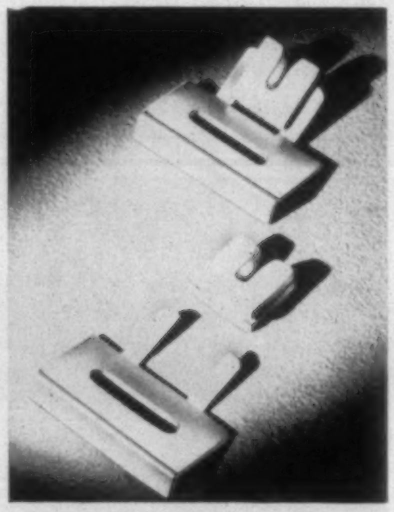
Offer Technical Bulletin On Cyanuric Chloride Use

The new product department of American Cyanamid Co. announces pilot plant production of cyanuric chloride. A recently issued 30-page technical bulletin is available and covers details of physical and chemical characteristics, and uses of this product. Cyanuric chloride has been used abroad for the preparation of dyestuffs and optical bleaching agents for whitening textiles. The product also offers possibilities for the syntheses of high polymers, mothproofing agents, surface active agents and plasticizers.

Cyanuric chloride is a solid melting at 146° C. Its boiling point is 190° C., and it is not decomposed at the boiling point. It is hydrolyzed by water, in which it is very slightly soluble. It is soluble in most organic solvents. It possesses a high degree of reactivity, somewhat resembling a carboxylic acid chloride and the reactivity of the chlorine atoms differs sufficiently to permit the stepwise introduction of the same or different substitutes. Reaction readily occurs with compounds having labile hydrogen atoms, such as amines, alcohols, phenols, mercaptans and malonic esters. The bulletin will be sent to interested parties upon written request.

Cite Big Savings In Use Of AlSiMag Guides

Emphasizing the proven economy of its new AlSiMag winder and redraw guides, the American Lava Corp. cites examples of dramatic savings. These guides have been on actual test in several mills for many months, the company claims, stating that no guide has yet shown the slightest sign of wear. These guides are running on fine denier nylon. The guides formerly used were the lowest priced guides on the market, which had to be replaced every two weeks. The AlSiMag guides are only slightly higher in first price but have already given 30 times as much service, it is claimed. Thus it is anticipated that the cost per pound of yarn processed will show better than a 95 per cent saving on total guide cost.



The new AlSiMag guide is offered as a guide alone or as a guide with holder. The holder is anodized aluminum. It is easily mounted on the frames of Monarch, Sipp-Eastwood or Atwood winder, spinner and redraw machines. Oblong screw slot permits ready adjustment and positioning. The guide slips into curved fingers of the holder. These fingers are curved or bowed to form a spring tension on the slots on the outer sides of the inserted guides. The guide may be pulled out for cleaning and slipped back into position easily, and the holder may also be removed easily for cleaning.

The AlSiMag guide is small, compact, economical. The guides are hard, homogeneous, dimensionally accurate. They are furnished in either high polish or satin finish. The excellent wear qualities of these AlSiMag guides are proven in the textile industry. They are furnished in AlSiMag 192, a non-conductor of electricity; or in AlSiMag 193, a conductor of electricity, for dissipating static. Otherwise these two materials are identical in all physical characteristics.

These AlSiMag guides are said to be especially valuable for processing synthetic yarns, woolen, worsted, high-twist cotton or any abrasive fiber that you spin, redraw or wind. Samples of the new winder and redraw guide and holder are available on request.

Avisco Booklet Describes Staple Development Plant

The work of the Avisco staple development plant at Nitro, W. Va., is described in an illustrated booklet just published by American Viscose Corp. The plant, which was established in 1941, not only serves as a proving ground for practical manufacturing methods but also helps to develop new products. Specifically the objectives of the development plant are to improve the quality of rayon staple, to try out and perfect new equipment, to reduce costs and to provide the corporation's fabric development and textile research departments with sample lots of staple for experimental work. In addition, the plant helps the company's commercial rayon staple plants surmount their productive difficulties. In effect, staple development acts as a bridge between pure research, and commercial-scale production. "In the solution of a research problem," the booklet points out, "staple development works through various stages, starting with a very small batch of spinning solution and gradually working up to commercial-scale production."

Work done by the staple development plant has resulted in the production of one-denier staple, controlled varied length staple, short staple blend and permanently crimped rayon staple. One-denier staple is the finest staple yet produced commercially. Varied length staple has proved valuable in wool and rayon blends. Short staple blends make it easier to spin uneven and slubbed rayon yarns which are used in such nubby fabrics as rayon shantungs, while permanent crimped staple is being used effectively in blankets and a variety of soft outerwear fabrics. Thus the plant, the booklet points out, is continually helping the rayon industry to produce an ever-increasing variety of spun rayon fabrics—ranging from sheerest lawns to warm, bulky blanketing, and at lower prices.

Firm Offers New Line Single Phase Motors

The Louis Allis Co. announces that it is in production on a new line of integral horsepower, single phase motors. A new approach was used in the design and construction of this line and many outstanding features are offered. The centrifugal switch formerly used to disconnect the starting condensers from the line after the motor is up to speed has been replaced by a voltage relay. This relay is mounted in the control cabinet furnished with the motor. This control cabinet also includes an across-the-line starter and the necessary capacitors which makes possible the removal of the capacitor enclosure on the motor itself. It is advantageous to mount these component parts

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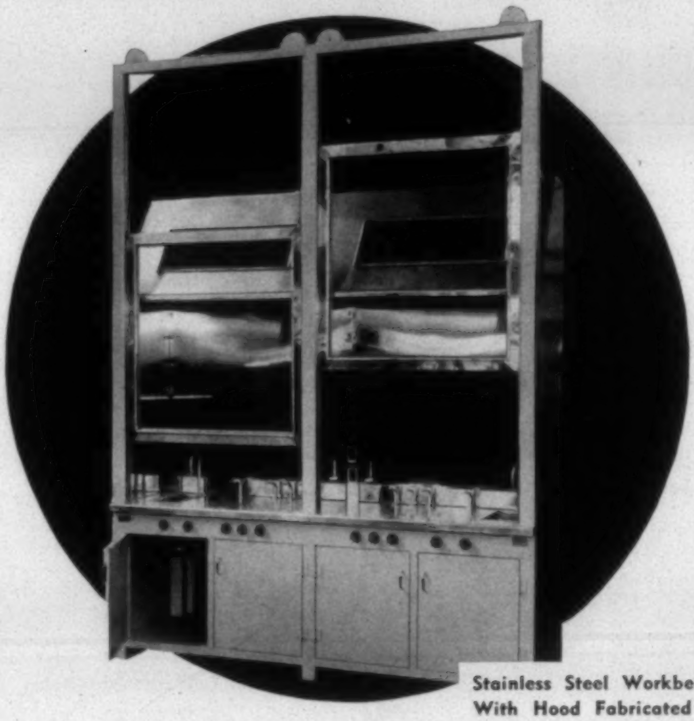

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Where your product comes in contact with metal . . . be sure you specify *Stainless Steel.* Correctly specified and fabricated, stainless steel overcomes many product difficulties. With non-corrosive Stainless . . . colors run true in successive runs and sensitive dyes remain unaffected by metallic contamination. Reduced repair and maintenance costs and longer life repay initial costs quickly.

In addition to stainless steel . . . *Truitt* fabricates most anything in carbon steel of any size and capacity. Engineering services are available without cost. Write today for booklet on *Truitt's* facilities.

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Kills

many putrefactive bacteria which cause disgusting odors . . .

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disagreeable smells with fresh, pleasant tang of eucalyptus.

Use F & E in and around toilets, urinals; for flushing garbage receptacles, commodes; for washing down dressing room benches . . . wherever thorough, effective deodorizing is imperative.

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F & E SOLUTION

The C. B. DOLGE CO.
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away from the heat and vibrations of the motor.

These new motors are built in capacitor start-induction run types in ratings of one and 1.5 horsepower and in capacitor start-capacitor run types in ratings of two, three, five, 7.5 and ten horsepower. The capacitor run types are supplied with oil type running capacitors which are also mounted in the control cabinet. This two value type of capacitor motor has a marked improvement in the efficiency and power factor over the single value type and is much quieter in operation. This new line is available in open drip-proof, splash-proof, totally enclosed, fan cooled, and explosion-proof construction. It is identical in appearance to the polyphase motor of the same enclosure and is built in the same rugged construction.

Watson-Standard Offers New Base White Organsol

A new base white organosol for textile coating has been developed by Watson-Standard Co. Called Watson-Standard 11-174A, the new coating is a high solids vinyl organosol type which provides an easily handled daub for the coater. Watson-Standard 11-174A is said to furnish a textile coating which is economical, possesses good "hand," excellent ultra-violet resistance and which can be printed over easily. This base white is exceptionally good for coating textiles in making plastic coated tablecloths and similar items. Full information of this new coating may be obtained from the manufacturer.

Book On Cotton Slashing Written By Paul Seydel

Of interest to many in the textile industry is the recently published book, *Cotton Slashing*, written by Paul V. Seydel, director of research for Seydel-Woolley & Co., Atlanta, Ga., manufacturer of sizing materials and textile chemicals. Mr. Seydel keeps his discussions on a practical basis, and the material in his book is drawn from the experiences of associates in his own organization, from his contemporaries and from the experiences of outstanding men in the textile industry. The 270-page book offers the reader a source of information, reference and bibliography not available elsewhere.

Monsanto Product, Syton, Described In Pamphlets

Four pamphlets, describing the use and function of Monsanto Chemical Co.'s Syton, an amorphous silica dispersion, in worsted, woolen, and commercial spinning and in carpet manufacture are available from the company. Although the formula varies from mill to mill, Syton is simply added to the stock at the gill box in a stable emulsion made up with the mill's standard processing oil. It requires no special processing equipment. The results, by increasing interfiber friction, are said to be loftier yarns, with increased tensile strength, better parallelization, reduced waste, greater uniformity and stepped-up spinning speeds. Each of the boolkets contains chemical and physical data and results of recent mill trials.

Effective June 15, the textile chemical department of the Merrimac Division of Monsanto Chemical Co. became headquartered with the division's executive offices and plant in Everett, Mass. Other offices scheduled to move from the company's Boston location to Everett before July 1 include the division's advertising and export departments, and the New England Alcohol Co., a Monsanto subsidiary. Branch sales offices of the textile chemical department in New York, Charlotte, N. C., and other cities are not affected by the change.

Firm Develops Unique Microscope Attachment

A microscope attachment that provides three types of reflected illumination—bright field, dark field, and polarized—has been developed by Bausch & Lomb Optical Co. Known as the Tri-vert Illuminator, it can be readily attached to the body tube of any standard mon-objective microscope for the examination of opaque or semi-opaque specimens. The changeover from dark field to bright field illumination is instantaneous and is controlled by a lever. A polaroid polarizer and cap analyzer provide for polarized light examinations.

Vertical illumination is attained by a glass reflector plate which is coated with titanium oxide. The periphery of the plate is aluminized for the dark field beam, and has a clear center for bright field and polarized light. A quadruple revolving nosepiece is employed to accommodate four objectives of patented design. The objectives are mounted in an illuminating cell of transparent plastic. The reflector, as well as the remainder of the attachment's optical parts, is completely enclosed, affording protection against breakage and dirt seepage.

Designed specifically to provide rapid comparison studies under three types of illumination, the attachment, which in no way impairs the focusing of the microscope, is expected to have wide application in textiles and other fields.

Coating, Handling Units Described In Booklet

"Blueprint for Industry, Part V," a 24-page booklet illustrates and describes in detail the many units and systems which Industrial Ovens, Inc., has developed for handling and processing textiles. It is a printed exhibit of Industrial Ovens diversified line of web handling equipment, comprising units of many different kinds for many different functions. These include various types of let-offs, coaters, dipping machines, drive rolls, oven units, tensioning devices and system drives. Among the complete web processing systems described are impregnators for tire cord, cotton and rayon webs and paper; paste coating fusing ovens; rubber cementers and adhesive coaters; organosol coating systems; and pilot plants for web coatings. The complete range of web handling and coating equipment presented in this expertly designed booklet is in effect a forceful demonstration of the engineering developments through which Industrial Ovens has transformed various related but separately performed operations into complete, entirely integrated processing systems. Copies of the book may be obtained without charge on written request.

New Lubricant Added To Texaco's Summitlube Line

A soft consistency grade lubricant has been added to Texaco's line of Summitlube products for textile mill use, it was announced June 10 by The Texas Co. To be known as Summitlube O, the new product is white in color and will be used for light duty service in textile mill twister rings. The Summitlube line has found wide use in textile mill bearings, and in pressure gun fittings where a white grease is needed. These greases withstand high temperatures and return to their original consistency even after melting points have been reached, it is claimed.

New Odom Comb Box Described In Folder

Complete specifications on The Colonel, all ball bearing oil-less comb box produced by Odom Machine Mfg. Corp., are contained in Report No. 149, available on request. Outstanding features claimed for the new comb box are (1) it uses no oil, is alemite lubricated, thus waste from oily selvages is practically eliminated; (2) all bearings sealed in to insure smooth, even operation; (3) has a long comb stroke which permits lower running speed in handling the web which improves the operating efficiency in the card room and eliminates costly shut downs of the cards; (4) its one-piece frame construction gives greater strength, reduces vibration and assures quieter operation; and (5) it is adaptable in that it can be used for either left or right hand cards and is made for all standards woolen and cotton cards.

Comer-Whittier Offers New Ball Bearing Bobbin Gear

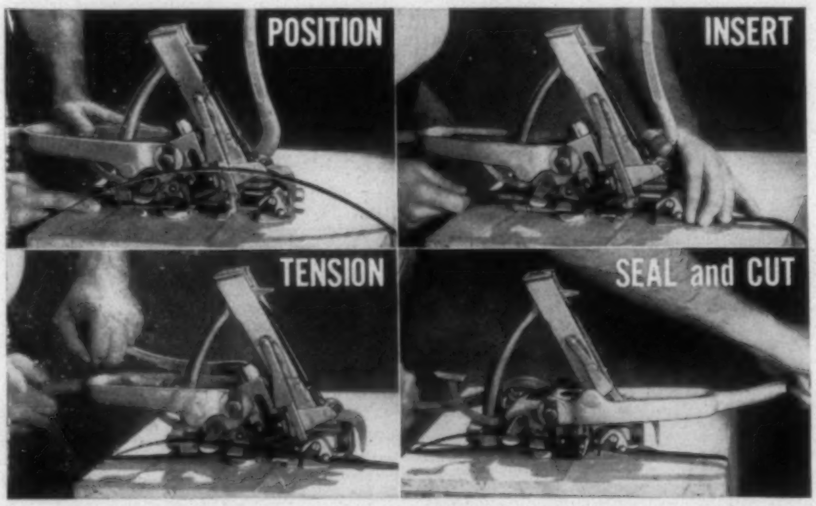
Said to be the most forward-looking development brought to the roving operation in 25 years is the new ball bearing bobbin gear of Comer-Whittier Shops. Adaptable to any type roving frame, the firm states that use of the new ball bearing bobbin gear in actual operation results in increased efficiency, reduced costs on roving maintenance and bobbin gear replacement, less noise and vibration and higher speeds and more production. Sealed-in lubrication eliminates the constant oiling required by the old style gear, the firm states. The new C-W gear, with cut teeth, is of extra hard steel, quieter running and longer wearing, it is claimed. Individually threaded, the gear detaches from the main assembly; is replaced and back in operation in a very short time and at a fraction of the cost of replacing the old conventional bobbin gear unit.

Magnesia Insulation Theme Of New Manual

A 96-page manual on 85 per cent Magnesia insulation, illustrated with line drawings and photographs, is being published by the Magnesia Insulation Manufacturers Association and will be available in July to those having a direct interest in industrial heat insulation. Among the subjects covered are: properties of 85 per cent Magnesia, determination of correct thicknesses, application and finishing procedures, and insulation maintenance. The appendix contains a discussion of practical applications of heat transmission theory, definitions of technical terms, 15 tables of data on 85 per cent Magnesia and related subjects, a glossary of trade terms, and a list of trade names of the insulating material and accessory products. Requests for copies should be made to the Association. 1317 F Street, N.W., Washington 4, D. C., on business letterhead, giving the title of the individual making the request. Copies will be numbered and the numbers registered with the association.

Painting Problems Are Discussed In Booklet

Maintenance men encountering out of the ordinary painting problems will be interested in securing the "Prufcoat Proof Packet" available from Prufcoat Laboratories, Inc., designed to give purchasing agents, superintendents, maintenance engineers and others interested in a standard size, easy-to-file folder of essential information about the use and specification of Prufcoat protective coatings. The Proof Packet contains reports from outside testing laboratories, actual case histories, Prufcoat protectograph plan for analysing painting maintenance costs, price list and catalog information. Requests for copies



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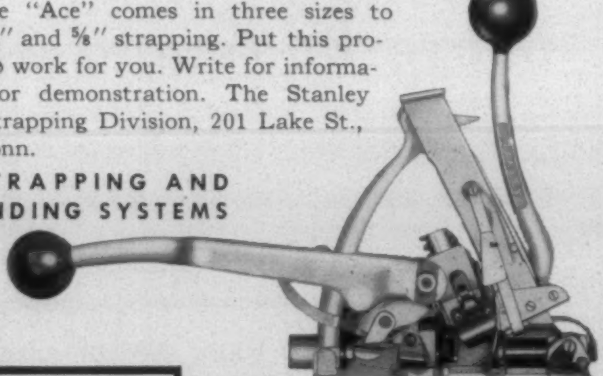

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HARDWARE · HAND TOOLS
ELECTRIC TOOLS

of the "Prufcoat Proof Packet" may be addressed to this magazine.

Booklet Lists Advantages Of Engineered Painting

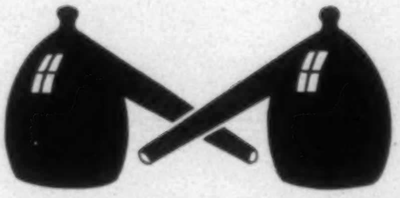
How engineered painting keeps cost down—and helps keep production up—is dramatically illustrated in a new 25-page booklet, "Engineered Painting," prepared by U. S. Gutta Percha Paint Co. The booklet points out that it is just as important for management to receive the maximum return from the purchase of a paint job as from any other purchase in the business. Stating that the importance of good light in work areas is well recognized by management today, the booklet emphasizes that good lighting, as affected by paint on the ceiling and walls, results in: increased production, better workmanship, continued production by older employees, less eyestrain, reduction in accidents, better morale and better housekeeping. Among many illustrations in the booklet are pictures of several textile firms, all users of the firm's Barreled Sunlight paint products.

Offer Articles On Battery Maintenance

The Gould Storage Battery Corp., Trenton, N. J., announces the availability of reprints of articles appearing in current national trade magazines on the subject of battery maintenance. Articles on the maintenance of both cycle-duty and stationary batteries are available. These articles have been reprinted in response to a large number of requests for the articles to use on battery-room bulletin boards, as instruction sheets, and as reference material. Stationary-battery reprints contain information on both installation and maintenance techniques. Illustrations, one of which is a typical stationary-type record card, are included. Cycle-duty battery reprints discuss eight primary rules of battery maintenance. Illustrations include photos demonstrating several of these rules and a reproduction of a typical cycle-duty record card.

Allis-Chalmers Names Two Southern Dealers

Newly named dealers for Allis-Chalmers general machinery division in the South are the Union Supply & Electric Co., 1400 South Mint Street, Charlotte, N. C., for the company's transformers and circuit breakers and Freeman's Electric Co., Tuscaloosa, Ala., for the firm's motors, controls, circuit breakers, Texrope drive equipment and centrifugal pumps. Union Supply & Electric Co., which was founded in 1945, is representing Allis-Chalmers in 15 counties in North Carolina and 11 in South Carolina. T. A. Wilkinson, Jr., is president, and R. H. Cline sales manager of the firm. Freeman's Electric Co. is serving as Allis-Chalmers dealer in Perry, Marengo, Sumter, Greene, Hale, Bibb, Pickens, Tuscaloosa, Larmar and Fayette counties in Alabama. The firm is headed by J. D. Freeman with



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The extremely low coefficient of friction is the secret of chromium plated rods' amazing wear resistance. Yarn contacting the lease rods and split rod guides without chafing

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J. D. Freeman, Jr., in charge of product sales. It was organized in 1939.

Metallizing Advantages Listed In Publication

Metallizing saves money by reclaiming crankshafts. The March issue of the *Metco News*, publication of Metallizing Engineering Co., Inc., is full of facts, telling how many metallizing users save money and time by rebuilding worn mains and throws on crankshafts. To the owners of industrial engines, textile cranks and shafts, metallizing offers a number of advantages over the old method of grinding worn mains and throws and refitting with undersize bearings. Metallizing also offers improved performance and longer service life due to two important characteristics of sprayed metal: (1) Superior lubrication, due to the oil holding pores in the surface; and (2) greater particle hardness in the metallized coating than in original metal of the same composition. Copies of *Metco News*, Vol. 4, No. 7, are available upon request.

Stonhard Co. Develops New Industrial Paint

Millwite, produced after years of research and development, is the newest product of the Stonhard Co., nationally known for its specialized building maintenance materials.

Stonhard Millwite is a specially created and prepared paint for varied industrial use. It is a heavy, white semi-paste that is most economical to use—either by brush or spray. Millwite's extreme whiteness is primarily due to the fact that it is a titanium dioxide paint with exceptional hiding and coverage qualities. It can be supplied to any surface—wood, concrete, plaster, wallpaper, brick or any other interior wall surface . . . various tints may be added as desired. Where there is a serious mildew problem, it is solved by the new formula Fungi-S.

Mop Sweeping Bulletin Offered By Tennant Co.

An illustrated folder on *How to Sweep Textile Mill Floors With a Cotton Mop* has just been published by the G. H. Tennant Co. Designed to show mills how correct use of dry mops can reduce floor maintenance costs, the new folder discusses mop preparation, sweeping techniques, methods of cleaning mops, and special tips on how to use a mop most efficiently in hard-to-clean areas.

N. C. Bureau Offers Industrial Directory

A new and greatly enlarged *Directory of North Carolina Manufacturing Firms* has been received from the printer and is now available to the public at a nominal cost of $1 per copy, Forrest H. Shuford, State Commissioner of Labor, announced recently. The 427-page, paper bound directory was prepared by the Division of Statistics of the State Department of Labor under the direction of statistician C. H. Pritchard. It lists approximately 5,700 North Carolina manufacturing establishments. The volume is divided into three sections which are sepa-

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rated by colored divider pages for ease in locating each part. Section I lists the manufacturing firms alphabetically, giving each firm's mailing address. Section II is a geographic listing of the plants by county and alphabetically within each county. Section III lists the firms alphabetically under 20 main industrial classifications and 108 subsidiary groupings, gives the location of each plant, the approximate number of employees and the name of the official in charge. For the user's further ease in tracking down information about each firm, the entries in the three sections are cross-indexed with code numbers which are explained in the introduction. Mr. Shuford said the $1 charge for the directory is necessary to cover partially the cost of printing. Printing costs have increased considerably since the previous directory was published in 1944, he pointed out, but the cost of the new directory to the public remains the same as that of the 1944 edition. Copies may be ordered from the North Carolina Department of Labor, Raleigh, N. C.

Serving The Textile Industry

Livermore Opens New Greenville Branch

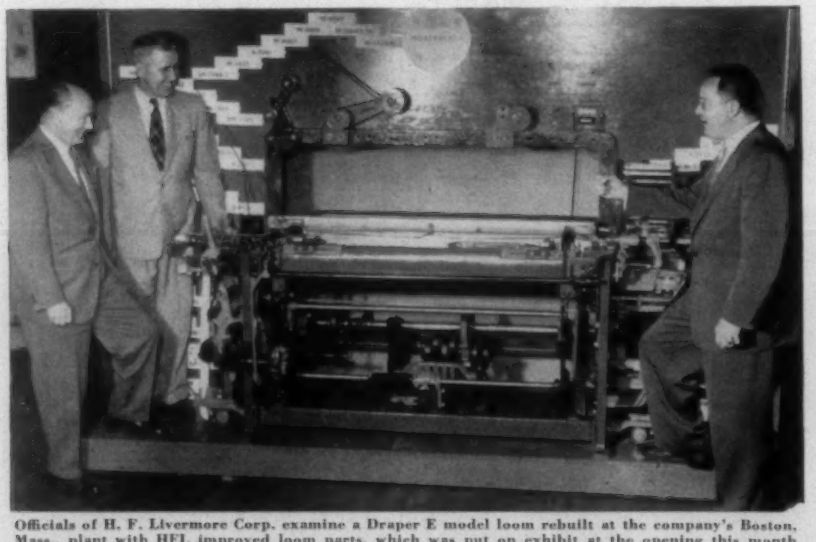
THE H. F. LIVERMORE CORP. of Boston, Mass., and Greenville, S. C., manufacturer of loom parts, opened a Southern division in Greenville June 10. The opening was a concrete example of the expansion policy of the 62-year-old Boston firm, now directed by Chester Hammond, president.

Business executives in banking and textile circles in Greenville, and the principal textile centers of the South were the guests of Mr. Hammond at a luncheon in the Poinsett Hotel. There he outlined the new loom service, which the corporation is prepared to give its customers by bringing Livermore parts to mill doors. This effects a saving in transportation charges, guarantees quicker deliveries, and provides the customer with expert technical engineering counsel in loom changeovers, and sub-assemblies.

Following the luncheon, Mr. Hammond's guests adjourned to the Livermore location at 123-125 Henry Street to inspect the exhibit set up in the 10,000 square foot modern brick showroom and distribution depot, which will house the more than 6,000 Livermore parts. There they saw a Draper Model E loom, upon which more than 200 H.F.L. improved loom parts had been mounted. These parts had been painted a bright orange, and from each part to a panel above the loom, a ribbon extended to a marker, giving the part order number. Ranged along the walls of the room where 60 panels, upon which were mounted H.F.L. parts.

A feature of the opening was the attendance from 4 p. m. to 8 p. m. of hundreds of weave room workers and their families from mills in Greenville County. The workers congregated around the rebuilt loom, and before the display boards, before entering into the social side of the program, in which mill superintendents, boss weavers, weavers and second hands, and their wives and children enjoyed a buffet supper, and the music and souvenirs which had been provided, and took part in the drawing for a handsome radio door prize.

In a brief talk at the conclusion of the luncheon, Mr. Hammond explained that his firm was not only inaugurating a physical expansion with its Southern division, but a functional expansion also. By locating in Greenville, the textile center of the Southeast, the Boston corporation from the physical standpoint will be able to insure prompter deliveries, over-the-counter sales, emergency deliveries and pickups, Mr. Hammond said. "In addition to this," he continued, "our engineering personnel has been increased and facilities expanded in our modern testing laboratories. With the proximity of our Southern division we will be able to offer service engineering counsel and in other ways give our customers more personalized service and help them solve their weave room problems."



Officials of H. F. Livermore Corp. examine a Draper E model loom rebuilt at the company's Boston, Mass., plant with HFL improved loom parts, which was put on exhibit at the opening this month of the new H. F. Livermore Southern Division at Greenville, S. C. *Left to right:* R. O. Gill, production manager at Boston and former factory manager for Packard Motor Car Co. at Detroit, Mich.; S. O. Rodge, chief engineer; and Chester Hammond, president of the company.

Guests at the luncheon included R. S. Small, president of Ottaray Textiles, Inc.; Roger C. Peace, publisher of the *Greenville News* and *Piedmont;* E. E. Scott, president of the Greenville Chamber of Commerce; Scott Russell, Radio Station WESC; Ernest Patton, chairman of the board, Peoples National Bank; W. E. Henderson, secretary-treasurer, Hunt Machine Works; John O. Hunt, president, Hunt Machine Works; Sydney Bruce, president, Camperdown Co., Inc.; J. B. Harris, vice-president, Greenwood Mills; H. B. McKoy, president, McKoy-Helgerson Co.; E. R. Stall, president, Florence Mills; Alester G. Furman, Jr., of Alester G. Furman Co.; G. W. Fortune, purchasing agent, J. P. Stevens Co., Inc.; L. M. McBee, III, Brandon Corp.; Win Whitnel, secretary, Chamber of Commerce; Junius Smith, business manager, TEXTILE BULLETIN; G. M. Huguley, superintendent, Upper Mill, Pelzer Mills; G. W. McCall, superintendent, Lower Plant, Pelzer Mills; W. H. Taylor, general superintendent, Pelzer Mills; V. J. Lipscomb, superintendent, Piedmont Mfg. Co.; J. C. Clark, superintendent, Judson Mills; Mayor J. Kenneth Cass; J. B. Templeton, superintendent, Brandon Corp.; W. C. McCombs, superintendent, Belton Mills; J. T. Bray, superintendent, Woodside Mills, Greenville; J. L. Edwards, superintendent, Woodside Mills, Easley; Hext M. Perry; Paisley Boney, assistant purchasing agent, J. P. Stevens Co., Greensboro, N. C.; W. H. Beattie, president, Woodside Mills; J. B. Baker, general manager, Pelzer Mills, and M. M. Taylor, superintendent, F. W. Poe Mfg. Co.

May Rayon Output Figures Given

Shipments of filament yarn and staple by domestic producers in May totaled 59,000,000 pounds, an increase of 5,000,000 pounds over shipments in the previous month but down 31,700,000 pounds from shipments in May, 1948, according to the *Rayon Organon,* statistical bulletin of the Textile Economics Bureau, Inc. In the first five months of the year, shipments totaled 344,400,000 pounds, a decline of 23 per cent from the corresponding period in 1948. Filament yarn shipments during May amounted to 51,300,000 pounds, a seven per cent increase over April and 25 per cent under May, 1948. Shipments last month comprised 39,800,000 pounds of viscose+cupra yarn and 11,500,000 pounds of acetate. In the viscose+cupra category high tenacity yarn shipments were 24,900,000 pounds and intermediate+regular tenacity 14,900,000 pounds.

Five months' 1949 shipments of the various types of yarn showed percentage changes from the corresponding period last year as follows: total viscose+cupra, minus nine per cent; high-tenacity viscose, plus 15 per cent; intermediate+regular tenacity viscose+cupra, minus 29 per cent; and acetate yarn, minus 22 per cent. Rayon staple shipments in May amounting to 7,700,000 pounds were up 24 per cent from April, but showed a loss of 65 per cent compared to the May, 1948, total. Staple shipments were composed of 4,900,000 pounds of viscose and the balance acetate. Total rayon stocks in the hands of producers at the end of May amounted to 70,800,000 pounds comprising 32,000,000 pounds of viscose+cupra filament yarn, 18,200,000 pounds of acetate yarn and 20,600,000 pounds of staple.

A study of world rayon production and capacity by the *Rayon Organon* reveals that in 1948 all major producing areas on the globe registered gains in output. World production of filament yarn and staple last year amounted to 2,477,475,000 pounds, an increase of 23 per cent over 1947 and only 12 per cent below the all time peak in 1941 of 2,816,890,000 pounds. Rayon filament yarn hit a new high in 1948 by surpassing the 1947 output by 18 per cent. Rayon staple production was up 33 per cent in its continuation of the post-war recovery but it was still 41 per cent below the record 1941 output. With Japan continuing its rayon recovery, production in the combined countries in Asia and Africa was up 99 per cent from 1947. Europe showed a 29 per cent increase, North America 16 per cent and South America three per cent. For the fourth consecutive year, the United States continued to lead the world in the output of both rayon filament yarn and staple. Germany continued to make

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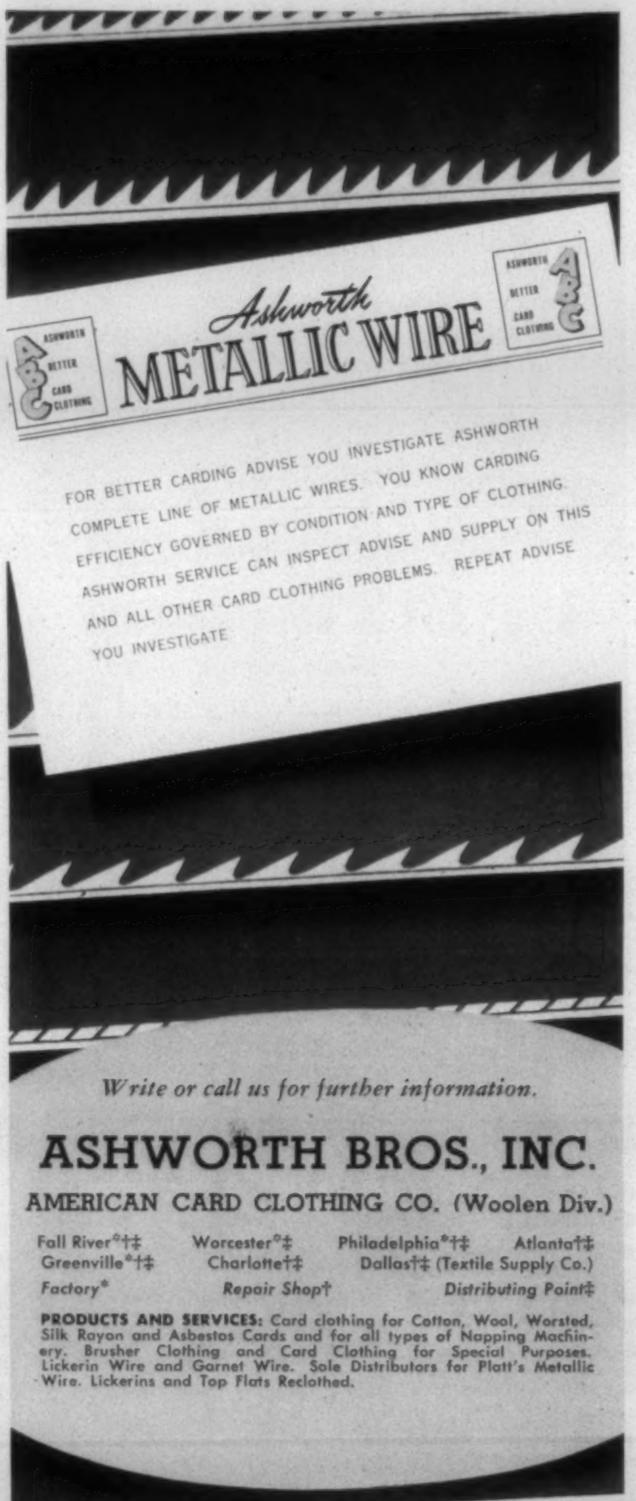

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*Factory** *Repair Shop†* *Distributing Point‡*

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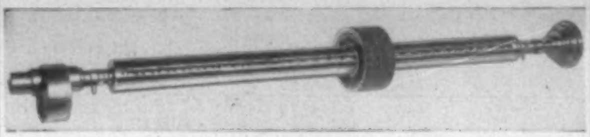

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- Solvay's "Industry-Wise" Technical Service which serves you with an intimate knowledge of your industry, and offers expert advice on the use, handling, and storing of alkalies
- prompt and convenient delivery from more than two hundred local stock points covering the entire country

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Bicarbonate • Sodium Nitrite • Para-dichlorobenzene • Ortho-dichlorobenzene
Monochlorobenzene • Methanol • Ammonium Chloride • Formaldehyde

progress in rayon recovery and more than doubled its output in 1948 compared to the previous year.

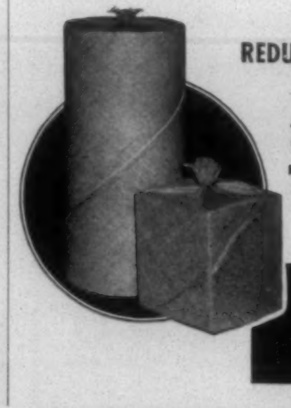
World rayon producing capacity during 1948 was operated to approximately two-thirds of its full March, 1949, potential of 3,585,150,000 pounds. By December, 1950, the *Organon* estimates that capacity will increase to 4,032,850,000 pounds, a rise of 12 per cent in the 21-month period. Looking at the world output in 1948 from the standpoint of rayon categories, the *Organon* estimates that filament yarn production amounted to 1,557,290,000 pounds. Compared to the production of a decade ago, it was up 56 per cent. Against the wartime low of 1945, world output was up 74 per cent.

Expansion of filament yarn production was especially notable in Europe. Countries in that continent accounted for 582,750,000 pounds, or 37 per cent of the world's 1948 total. Compared to the previous year, Europe's increase in filament yarn was 20 per cent, bringing its production to within 97 per cent of the 1941 peak. In addition to Germany's partial recovery, Belgium, Czechoslovakia, France, Greece, Hungary, Norway, Poland, Switzerland, the U. S. S. R. and the United Kingdom attained new all-time records in the output of filament yarn. Finland, Portugal and Spain showed a decline, as did Italy which appears to have overextended itself in its 1947 gain over 1946.

In the Western Hemisphere, rayon filament yarn production totaled 937,775,000 pounds in 1948, a gain of 15 per cent over the previous year and over 200 per cent over the output of a decade ago. The rayon producing countries of North and South America accounted for 60 per cent of world output of filament yarn and the United States alone with 856,150,000 pounds produced 55 per cent of the total. Japan produced 35,730,000 pounds, more than double the 1947 output. Cuba and Egypt began production of filament yarn for the first time in 1948.

Yarns by the viscose process were produced in greatest volume and comprised 72 per cent of the total 1948 yarn output or 1,123,070,000 pounds. The acetate process was second in importance with 393,315,000 pounds, 25 per cent of the total. Cuprammonium output amounted to 34,700,000 pounds and less than 10,000,000 pounds of rayon yarn were produced in Brazil and Hungary by the nitrocellulose process.

Thirty-one countries produced viscose rayon filament and the major producers were the United States with 50 per cent of the world total, followed by Italy with nine per cent; the United Kingdom, eight per cent; and France, eight per cent. Eleven countries produced 393,315,000 pounds of acetate



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filament yarn with the United States outstripping all others with 75 per cent of the total, followed by the United Kingdom and Canada. Czechoslovakia, Germany, Italy, Japan, the United Kingdom and the United States produced a total of 34,700,000 pounds of cuprammonium filament yarn with two countries, the United States and Germany, accounting for over two-thirds of this total.

World output of rayon staple in 1948 amounted to 920,185,000 pounds, a gain of 33 per cent over the previous year. New records cannot be set for staple output, the *Organon* points out, until the former Axis countries of Germany, Italy and Japan, which produced so large a proportion of total world staple in the period between 1937 and 1944, again come back to somewhere near their present plant capacities. European countries, however, registered the greatest poundage gain in staple last year and accounted for the largest area output. Production in Europe increased to 611,545,000 pounds, a gain of 38 per cent over 1947 to give the area 66 per cent of the world total. As in the case of filament yarn, progress in restoring German staple production was the major element in expanding European output. In addition, new production records were set by Czechoslovakia, Finland, France, the Netherlands, Norway, Spain, the U. S. S. R. and the United Kingdom. Belgium, Italy, Sweden and Switzerland registered losses compared to 1947.

In the Western Hemisphere, production aggregated 273,370,000 pounds of staple, an increase of 17 per cent over 1947. The area accounted for 30 per cent of the world total as compared with three per cent a decade ago. The United States led the world in staple output with 268,180,000 pounds or 29 per cent of the world total. Although Japan showed an 83 per cent gain in staple output, it produced only one-tenth of its peak output attained in 1938.

The *Organon* estimates that 90 per cent of the staple produced in 1948 was by the viscose process and ten per cent by the acetate process. Viscose poundage totaled 825,315,000 pounds and acetate 94,870,000 pounds. A nominal amount of cuprammonium staple is included in the viscose figure. Viscose staple was produced in 22 countries with the United States the leading producer. In 1948 this country turned out 22 per cent of the world total, Germany 19 per cent, the United Kingdom nine per cent, and France eight per cent. In the case of acetate staple, the United States led with an overwhelming 88 per cent. Other acetate producing

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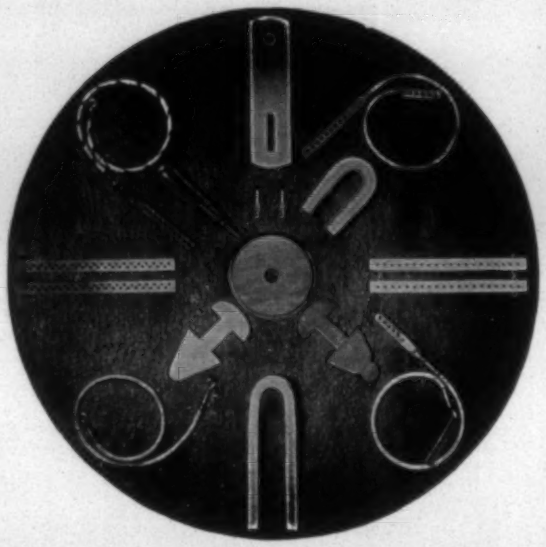

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countries were Canada, France, Italy, Japan, Germany and the United Kingdom.

German rayon production in 1948, totaling 233,300,000 pounds, amounted to 48 per cent of the pre-war output a decade ago. The 1948 output of both filament yarn at 72,100,000 pounds and staple at 161,200,000 pounds was more than double the 1947 figure. Filament yarn production was greatest in the British zone where 42 per cent of the total was extruded. Filament output in the other zones was American 35 per cent, French 12 per cent, and Soviet 11 per cent. On staple production the American zone accounted for 30 per cent, the British 22 per cent, the French one per cent and the Soviet 47 per cent. On total staple and filament, 64 per cent came from Western Germany and 36 per cent from the Eastern area controlled by Russia.

In a breakdown of world rayon capacity by categories, the *Organon* estimates that filament yarn capacity as of March, 1949, totaled 1,934,250,000 pounds and by December, 1950, is expected to expand to 2,172,350,000 pounds. Countries where major increases in yarn producing capacity is indicated include Brazil, France, Japan, the U. S. S. R., the United Kingdom and the United States. World staple capacity in March, 1949, is estimated at 1,650,900,000 pounds and by December, 1950, is expected to increase to 1,860,500,000 pounds, an increase of 13 per cent. Major increases are anticipated in Canada, France, Japan, the U. S. S. R. and the United Kingdom, while small staple capacity reductions are scheduled for Italy and the United States. Projected staple fiber capacity for December, 1950, will be double the actual 1948 production, the *Organon* points out.

Combined world production of rayon, cotton, wool and silk in 1948 amounted to 17,813,000,000 pounds, an increase of 15 per cent over the previous year and the highest global output since 1940. Last year cotton continued to be the most important of the four fibers in terms of quantity produced with 73 per cent of the total followed by rayon with 14 per cent; wool 13 per cent and silk nominal. Ten years ago, the proportional distribution of the four fibers was cotton 75 per cent, wool 13 per cent, rayon 11 per cent and silk one per cent.

The annual meeting of the Narrow Fabrics Division of the Cotton-Textile Institute was to have been held Thursday, June 23, at the Chalfonte-Haddon Hall, Atlantic City, N. J. The program includes a golf tournament at the Sea View Country Club, a business meeting, dinner and entertainment.

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Hold First Textile School Staff Parley

The first textile school staff conference in the history of textile education in this country was held when the teaching members of the 12 United States textile schools gathered at Lowell (Mass.) Textile Institute for a three-day program June 15-17. A group of well over 100 educators were present for a round table discussion of their mutual problems. The Lowell Textile Institute housed the guests in its new dormitory, Smith Hall, and provided a program of outstanding speakers in the field of textile education, as well as arranging the panel discussions in the teaching of the different fields of textile technology.

The 12 schools co-operating in the program are: Alabama Polytechnic Institute, Bradford Durfee Technical Institute, Clemson College Textile School, Georgia School of Technology, Institute of Textile Technology, Lowell Textile Institute, Massachusetts Institute of Technology, New Bedford Textile Institute, North Carolina State College, Philadelphia Textile Institute, Rhode Island School of Design, and Texas Technological College.

Mornings during the three-day conference were given over to speakers and the afternoons devoted to panel discussions. Three panels were held each afternoon covering textile manufacturing, textile chemistry, and design and weaving.

Dean Malcolm Campbell of the School of Textiles at North Carolina State College, Raleigh, reported recently that the textile school deans are planning a first-hand study of new textile machinery and production methods in Britain and other European countries. Attending a luncheon meeting of the executive committee of the North Carolina Textile Foundation, Inc., Dean Campbell revealed that the investigation of Europe's post-war know-how in textiles is set tentatively for sometime within the next two months. Recent developments abroad, particularly in England and Switzerland, he said, may prove of significance to the industry in the United States.

Industry Injury Rate For 1948 Released

Industry had a banner safety year in 1948, the National Safety Council reports. Last year's industrial injury rates, released by the council in advance of the 1949 edition of *Accident Facts*, its annual statistical yearbook, show a substantial reduction in both frequency and severity of accidents to employees as compared with 1947. The accident fre-

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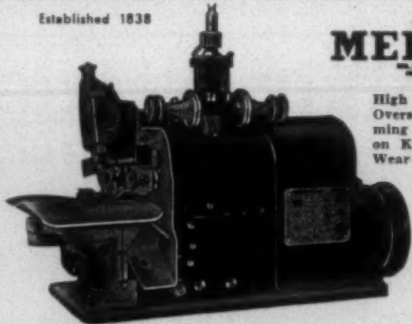

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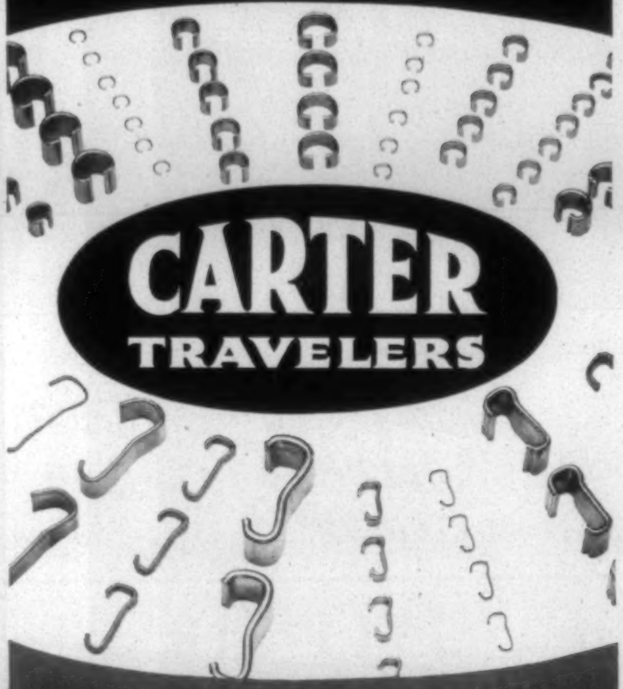

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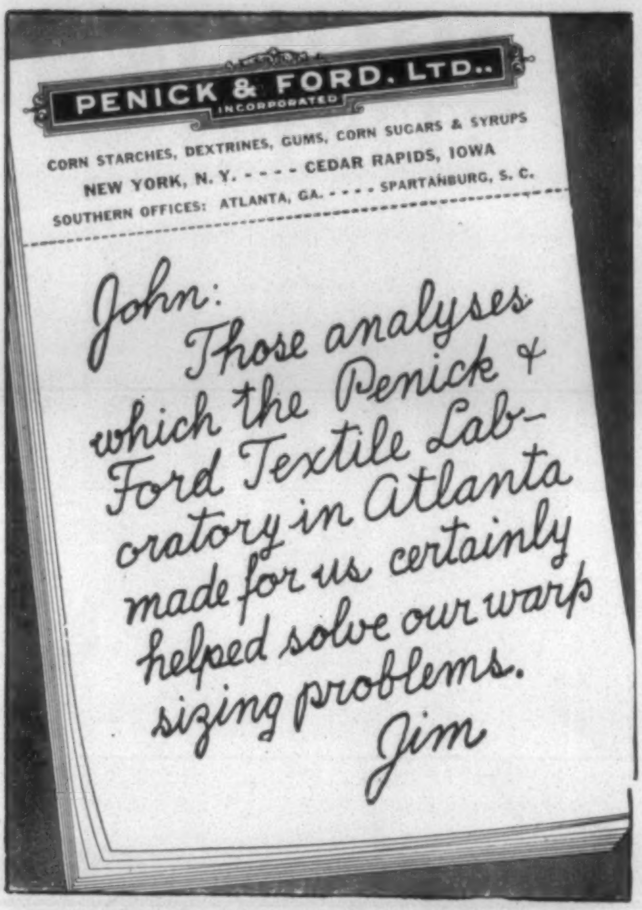
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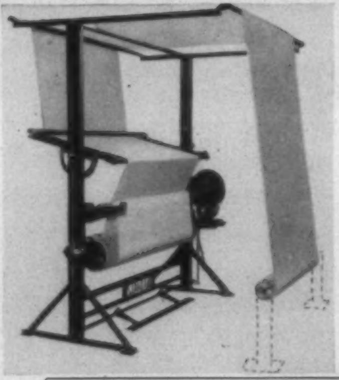

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quency rate for all industries submitting company reports to the council, based on the number of disabling injuries per 1,000,000 man-hours, was 11.49 in 1948—a reduction of 13 per cent from the year before.

The textile industry, however, registered no change in its accident frequency rate, the 1948 figure remaining the same as that for the previous year—8.79 per cent. The accident severity rate for the textile industry, based on the number of days lost per 1,000 man-hours, was .58 in 1948, an increase of seven per cent over 1947. The accident severity rate for all industries was 1.12 last year, a reduction of nine per cent from 1947.

Rayon Price Structure Analyzed In Report

"Rayon Prices: Past, Present, and Future," is the title of a 33-page report by Robert B. Evans, special assistant to the director, Southern Regional Research Laboratory, New Orleans, La. An introduction to the report states that "the price at which rayon is now selling and will sell in the future is of tremendous significance in the intense competition between this fiber and cotton. In order to provide basic information for the cotton industry on this subject, a study of rayon prices was made at the Southern Regional Research Laboratory in 1946 and early 1947 as part of the co-operative Study of Agricultural and Economic Problems of the Cotton Belt, sponsored by the special sub-committee on cotton of the House of Representatives." Analyzed and explained in detail are rayon staple prices, prices of continuous filament rayon yarns, comparative prices of rayon and cotton manufactured products, future rayon prices and labor productivity in the rayon industry.

Set Hearing On Long-Staple Quota Imports

The U. S. Tariff Commission June 9 announced that a supplemental investigation to determine whether present import quotas on long-staple cotton should be modified or dropped, would be held July 7 in Washington. Quotas on imports of cotton having a staple of $1\frac{1}{8}$ inches or more in length were originally made effective Sept. 20, 1939, by Presidential proclamation. The President later suspended the application of the proclaimed quota to cotton having a staple of $1\frac{11}{16}$ inches or more in length, so that since Dec. 19, 1940, the quotas on long-staple cotton have applied only to cotton having a staple of $1\frac{1}{8}$ inches or more but less than $1\frac{11}{16}$ inches in length. On June 9, 1947, and on July 20, 1948, the President proclaimed supplemental import

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quotas for the then current quota years, permitting the entry of additional quantities of long-staple cotton.

The object of the present supplemental investigation is to determine whether the circumstances requiring the import quotas on cotton having a staple of 1⅛ inches or more in length continue to exist, or whether changed circumstances require the modification of the quotas, or of the methods of administering them, for the present quota year or for future quota years. Among specific questions which have been advanced for consideration are (a) whether imports should be subject to license for purposes of allocation to consuming mills according to their individual needs, (b) whether the quota year should be changed to begin on a date other than Sept. 20, e.g., whether it should be put on a calendar-year basis, (c) whether the quota should be subdivided to provide limits on the amounts that may be entered quarterly, (d) whether imports should be permitted only by or for the account of consuming mills. Testimony will be received not only on the foregoing detailed questions but on any other matters relevant to the general subject as stated in the first sentence of this paragraph.

Parley Considers Electronics In Textiles

Textile mills are using more and more electronic instruments in processing, according to Charles W. Bowden of the Brown Instruments Division of Minneapolis-Honeywell Regulator Co. Speaking at the first conference ever held in the South on new electrical methods for increasing production, held at the A. French School of Textiles of the Georgia Institute of Technology, Atlanta, Mr. Bowden pointed out that there was a time when the word electronics was scarcely ever heard with reference to textiles. "Whenever it was mentioned," he stated, "it was associated with radio or devices that were considered useful only in other industries. These inhibitions have largely passed and today we find more and more electronic devices being employed in every modern textile mill."

Another speaker, R. J. Demartini of the paper and textile divisions of General Electric Co., Schenectady, N. Y., told the meeting that every loom application should be studied in terms of the possible gains to be had from increasing inertia of the drive system by the use of the flywheel. His paper was prepared in collaboration with A. F. Lukens of the firm's induction motion section at Lynn, Mass.

F. D. Snyder, supervisor of the industrial engineering section of Westinghouse Electric Corp., Boston, Mass., told those attending the conference that complete understanding

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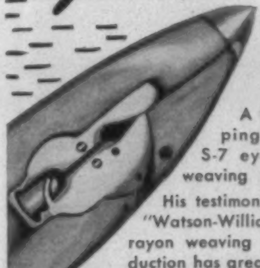

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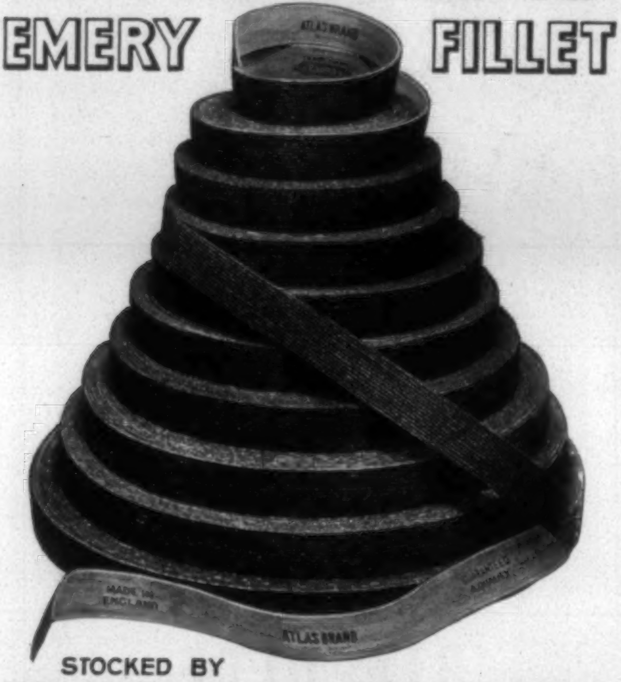

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of the things the electrical industry has available for use by textile plants is needed. The electrical art has grown and today electricity is used not merely as a source of prime motive power, but as a highly versatile force that can accomplish an endless variety of tasks which were formerly considered purely mechanical functions, Mr. Snyder said. "By building motors with the proper performance curves and by using the proper control apparatus, acceleration, from the slow rate desired of a roving frame to the extremely high rate demanded of a shuttle type loom, can be obtained," he added.

Wet Processing Equipment Exhibit Held

Visitors to the Textile Wet Processing Equipment & Supplies Exposition held June 6-10 at the 71st Regiment Armory in New York City were shown the latest designs in such equipment, displayed in a total of 38 exhibits. Interest in the show was good, exhibitors reported, considering that it was the first show of its kind. Visitors appeared to be particularly interested in devices that would make wet finishing continuous. Manufacturers in attendance reported that expansion plans of textile finishing plants are proceeding according to schedule despite the drop in fabric production and sales this year. The backlog for such items as dye jigs, vats and special equipment are down about 50 per cent, but in some instances companies are still six to 12 months behind in their deliveries, it was learned. The exposition was under the direction of Arthur Tarshis, Expositions for Trades, Inc.

A. C. M. A. Again Selects Palm Beach

The American Cotton Manufacturers Association next Spring will return to Palm Beach, Fla., for its annual convention, it was announced recently by Ellison S. McKissick of Easley, S. C., chairman of the board of the association. Mr. McKissick reported that convention headquarters will be at the Palm Beach Biltmore Hotel and that the date for the meeting will be March 30-April 1. One of the principal reasons for returning to Palm Beach, it was pointed out, is that the convention hotel there is the largest south of Washington on the Atlantic seaboard and has excellent facilities for handling such a meeting.

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Wages Show Gain Of 204 Per Cent

Wages in the cotton broad woven goods industry rose by 204 per cent from 1939 to 1947 while employment in the same period increased by seven per cent, according to preliminary figures released by the Census Bureau. Findings of the 1947 Census of Manufactures, the bench mark tabulation to which most other census and private industry statistics are tied, reveals wages paid to production workers in cotton broad woven goods went up from $230 million in 1939 to $700 million in 1947. This shows that the average annual wage paid in 1947 was $2,045 compared to $720 in 1939. Employment averaged 342,360 in 1947 compared to 318,892 in 1939. These latest Census of Manufactures figures carry special significances since it is the first such compilation made since 1939 when operations were suspended. The next such census will not be taken until 1952 at the earliest.

Other important census findings show that manufacturers in cotton broad woven goods shipped products valued at $3,295,000,000 during 1947, an increase of 269 per cent over 1939. Value added by manufacture during 1947 amounted to $1,562,000,000, a 250 per cent rise over 1939. Value of manufacture is calculated by subtracting cost of materials, supplies, containers, fuel, purchased electric energy, and contract work from the value of the products.

The 1939 Census of Manufactures reported the textile industry as being the No. 1 employer in all U. S. manufacturing industries. Cotton broad woven goods in turn claimed the largest employment within the textile industry. Government figures not yet completed are expected to reveal that cotton broad woven goods will continue to employ the greatest number in the textile field. Quarterly production reports of cotton broad woven goods are being continued to fill in between the studies embodied in the Census of Manufactures. The National Cotton Council has encouraged these quarterly studies in view of their industrial significance.

N. C. School Gets Textron Scholarship

The School of Textiles at North Carolina State College, Raleigh, has become the third Southern school to receive Textron scholarships to assist textile students during their senior year, Royal Little, president of Textron, Inc., announces. The other textile schools to receive the $500 grant are those at Clemson College and Georgia Tech. These Textron scholarships are part of a plan conceived by Mr. Little to further the efforts of promising textile students. The winners are to be selected by the colleges on the basis of both high academic achievement and outstanding leadership qualifications for future application to the textile field. Two recipients have already been selected: J. F. Cathcart has been designated by Clemson as the Textron scholarship award winner, and the Georgia institute has chosen Horace E. Corley.

Cotton Council Meets In January

The National Cotton Council will hold its 12th annual meeting at the Hotel Peabody in Memphis next Jan. 23-25, Oscar Johnston of Scott, Miss., chairman of the cotton or-

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ganization's board of directors, has announced. Mr. Johnston said that the meeting will bring to Memphis more than 1,000 representatives of the cotton industry and allied groups. In addition to voting delegates, the council meetings are attended by representatives of the Department of Agriculture, Cotton Belt land grant colleges, industries allied to cotton, and members of the cotton industry itself.

Reference Booklet Offered To Industry

A new booklet entitled "Inventory of the Resources of the United States for Textile Research, Development, Education, and Testing," has just been issued by the textile section of the New York Board of Trade, Inc. Compiled by the technical committee of the organization, under the chairmanship of D. E. Douty of United States Testing Co., Inc., it contains information on the above subjects which is not found in any other single document.

Dr. Douty, in announcing the issuance of the booklet, pointed out that as a reference booklet it will prove invaluable to all personnel in the textile and allied fields. "For the first time," he states, "resources on research and development, testing and education are listed in one pamphlet." He explained that information was initially gathered together for the American representatives to Buxton, England, textile conference held last June. The textile section of the New York Board of Trade recognized the value of such reference material and authorized Dr. Douty and his committee to prepare the booklet and issue it as a public service to all interested personnel.

Industrial Relations Conference Scheduled

The responsibility of management and labor for achieving better understanding with each other will be the major subject at the 30th annual Southern Industrial Relations Conference at Blue Ridge, N. C., July 20-23. Among the 15 noted speakers on industrial relations that will appear at this conference will be Whiting Williams of Cleveland, Ohio, veteran counselor in employee and customer relations.

Due to the growing concern of the public, as well as management and labor, over the need for "Achieving Better Understanding in Industry," attendance at this year's conference is expected to exceed that of last year when a record was set, according to R. J. Stockham, vice-president of Stockham Valves and Fittings, Inc., of Birmingham, Ala., chairman of the conference board of directors. Last year 744 delegates, representing 235 plants, institutions, and agencies from 19 states and the District of Columbia, attended the industrial relations conference.

Major topics for discussion will include impending national legislation on management and labor policies, research covering supervisory development, leadership training programs, and methods of improving industrial understanding through better press relations, two-way communications, better foreman-employee understanding, and "open house" programs.

Other speakers besides Whiting Williams will include: William W. Mussman, Ware Shoals, S. C., personnel director for Riegel Textile Corp.; John J. Corson, Washington, D. C., circulation manager of the *Washington Post;* Don

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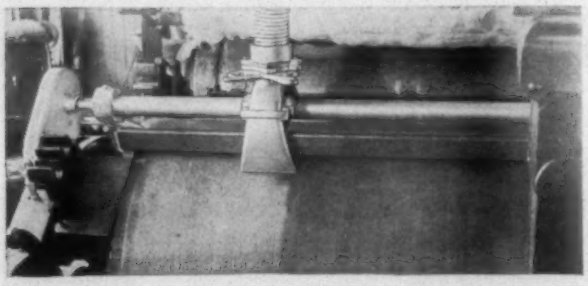

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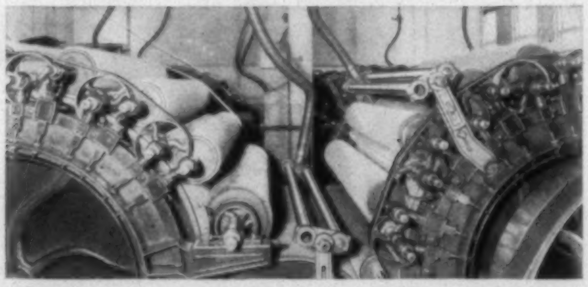
3. Stripping 100% by vacuum (no brush touches the clothing) keeps card wires in better condition with less frequent grinding.
4. Extra thorough stripping gives cleaner sliver, less fly, better quality of product. 100% dust free.



Showing woolen card cylinder and doffer equipped with Abington Vacuum Stripper, which feeds across automatically.

WOOL Abington Vacuum Stripping saves 60% to 90% of Stripping cost through its automatic features.

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Carroll, manager of the Scottsville, Va., plant of the United States Rubber Co.; Douglas McGregor of Yellow Springs, Ohio, president of Antioch College; George D. Heaton, Charlotte, N. C., pastor of Myers Park Baptist Church; William Conover, Syracuse, N. Y., production manager for the Carrier Corp.; C. W. McLennan, Lynchburg, Va., personnel director of the Lynchburg Foundry; Erwin H. Schell, Cambridge, Mass., department of business and engineering administration, Massachusetts Institute of Technology; Robert K. Burns, Chicago, Ill., executive officer for the industrial relations center of the University of Chicago; C. J. Hendon, Atlanta, Ga., vice-president for the Southeastern district of the General Electric Co.; Forrest H. Kirkpatrick, Bethany, W. Va., dean of Bethany College; and Macon Miller, Spray, N. C., director of industrial relations for Fieldcrest Mills.

Patents Granted On Textile Items

Several patents relative to textiles have been issued recently, according to Paul B. Eaton. Charles W. Burrum of Graniteville, S. C., was awarded Patent No. 2,640,569 on an apparatus for applying a retarding action to the drums of a tension frame for a sheet of warp in a long chain beamer. In a machine of this type the warp comes to the long chain beamer in rope form, and the purpose of the beamer is to straighten out the ends in the rope warp, separate them on an expansion comb, and wind the ends onto a section beam ready for slashing and other purposes. In a long chain beamer of this type, the warp chain must be stretched from the beamer to a tension frame, a distance of about 30 feet, so the ends of the warp will separate gradually from the chain, form into a sheet, and not be jerked, twisted or broken. By use of Mr. Burrum's apparatus, the proper amount of tension can be insured in the warp from the tension frame to the beamer, and also when the machine is stopped, the drums on the tension frame and the beamer will stop at precisely the same time, thereby preventing any slackness in the warp, which would allow the same to touch the floor of the mill and become soiled, or too much tension, which would break some of the ends in the sheet of warp.

Albert M. Guillet of Charlotte, N. C., was awarded Patent No. 2,449,219 on a means for leveling and aligning Foster cone winders and the like. The invention comprises special brackets secured to opposed ends of the winder which are adapted to support a reel at one end and an anchoring means at the other end for stretching a wire or other line from the anchoring means to the reel means, whereby proper tension can be supplied to the line, and the line is then used as a guide for leveling and aligning the entire machine. This is an improvement over Mr. Guillet's former Patent No. 1,907,959.

Patent No. 2,445,065 was granted to Fred A. Hamilton of Easley, S. C., assignor to Bahan Textile Machinery Co., Inc., of Greenville, S. C., on a stirrup for connecting the treadles of a loom to the jack strap which is associated with the lower portions of the harness frame. Heretofore the stirrups disposed on the treadles have extended upwardly a substantial distance and have had secured thereto, by means of a bolt and thumb nut, the two ends of a leather strap which extends upwardly and passes through a slot in the jack stick. As is well known, the treadles of the loom move part of the harness frames downwardly and cause other frames to move upwardly to form a shed in the warp. It

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very often happens that the jack stick, when in lowered position, will engage the thumb nut on the stirrup associated with the jack strap and this causes a notch to be cut from the lower edge of the jack stick and this notch soon deepens to the point where the jack stick is weakened to the point where it must be replaced. It is the object of this invention to provide a stirrup of much shorter length than has hretofore been used, and having a transverse portion disposed at a much lower point than has heretofore been the custom and this transverse portion is provided with a bolt and thumb nut so that the two ends of the jack strap can be adjusted, one of the ends having a slot therein and thus the bolt with the thumb nut thereon is lowered to a point sufficiently close to the treadles to prevent it being engaged by a lowered jack stick.

Textron To Decentralize Operations

Plans of Textron, Inc., to decentralize operations were revealed recently in a statement by Royal Little, president, who said: "Textron in the past has had completely centralized control of all operations in its New York office. The directors have decided that this type of organization is too cumbersome and expensive for the fast moving traditionally decentralized textile industry. The directors have delegated to me authority to decentralize the business, appoint general managers for each division, and eliminate all unnecessary staff functions. Overhead cost reductions at the annual rate of more than $2,000,000 will have been effected by the end of June. I have personally given up all outside activities and will devote all my time to the management of Textron.

"It is believed that the greater flexibility which will result from decentralization will be of especial benefit to the further development for the Textron brand name operations and improve service to our customers. All of our Fall lines are now ready for showing. The company is currently in the strongest financial condition of its history."

Ralph Going Heads Fieldcrest Council

Ralph Going was named president of the Carolina Cooperative Council, 29-year-old organization composed of key men of Fieldcrest Mills, at a meeting May 19. Hugh T. Bundy was chosen vice-president and W. B. Weaver was re-elected secretary. Joseph P. Foster was elected assistant secretary, and J. B. Lamar was elected a member of the program committee. Committee chairmen were chosen as follows: attendance, Ben Dunton; refreshments, Jesse M. Burton; and constitution, Robert A. Harris. The new officers will be installed at the September meeting when the council resumes its activities after being suspended during the Summer months.

Dr. Alfred J. Marrow, industrial psychologist and president of Harwood Mfg. Corp. of Marion, Va., discussed "Human Relations in Industry." Dr. Marrow said the human personality is the mystery of the ages and research in other fields and technological advances have greatly outdistanced the scientific study of human nature. "We learned to split the atom before we learned to mend split personalities," he said. He described his work at Marion, where for the past nine years his company has been successful in a program of "democratic human relations" based on group participation.

Members of the North Carolina-Virginia Society of Training Directors attended the meeting as guests of the council.

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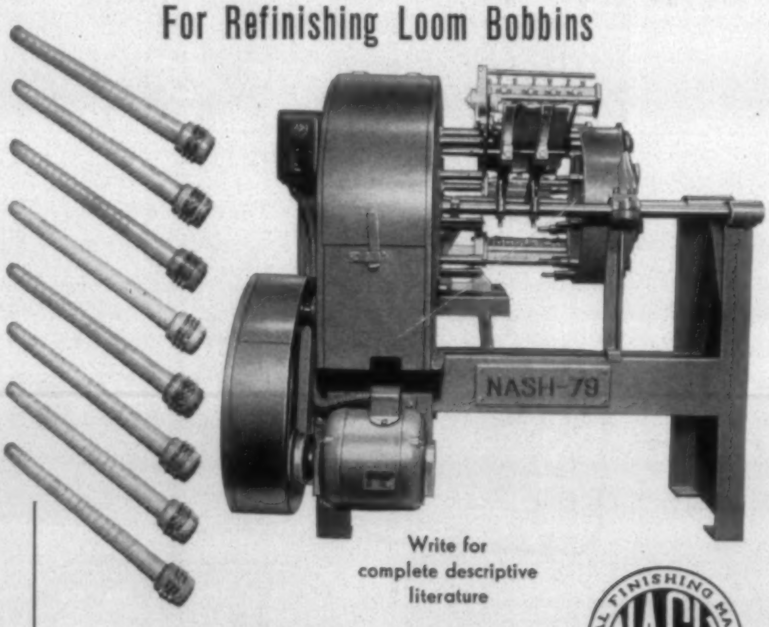

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A. A. T. C. C. Approves Prize Paper Award

Acceptance of a proposed prize award to be given annually for the best paper presented before a local section was voted recently by the national council of the American Association of Textile Chemists and Colorists. The award of $200 annually was offered by Howes Publishing Co. in memory of the late Alfred P. Howes and would be known as the *American Dyestuff Reporter* Prize Paper Award. Intent of the prize is indicated as the encouragement of the presentation of better papers before the local sections.

It is specified that the paper, to receive consideration for the prize, must be published in the proceedings of the association according to the rules set up therefore between Aug. 1 and July 31. Other conditions are to be established jointly by the association and the publishing company and judges are to be chosen by the A. A. T. C. C. It is suggested that papers submitted in the intersectional contest and those read before other societies be not considered eligible. The award would be presented at the annual convention.

The council also accepted the invitation of the Northern New England Section to gather in its territory for the annual convention in the Fall of 1952. New York is to be the host in 1951 at the Hotel Statler and Rhode Island in 1950 at Wentworth-by-the-Sea. This year's parley is at Atlantic City by invitation of the Philadelphia Section.

World Standards Adopted For Silk

For the first time in history, the world's silk manufacturers have reached agreement on a universal system for testing the quality of silk. Such an agreement, "in principal," was reached at the recent 22-nation world silk conference held in Zurich, Switzerland. H. Lee Moss, secretary of the American Silk Council and a U. S. delegate at the conference, reported that the achievement of universally accepted standards of silk classification had been attempted without success for over 40 years. The new system will be based on a combination of the systems currently in force in the United States and Japan. Technical committees are working to adapt the various methods in force in Italy, France and other major silk producing countries to the new standard method.

The conference also formally established an International Silk Association to promote the common interests of the world's silk manufacturers. Ariste Potton of France was elected president of the new organization. Headquarters are to be established at Lyon, France.

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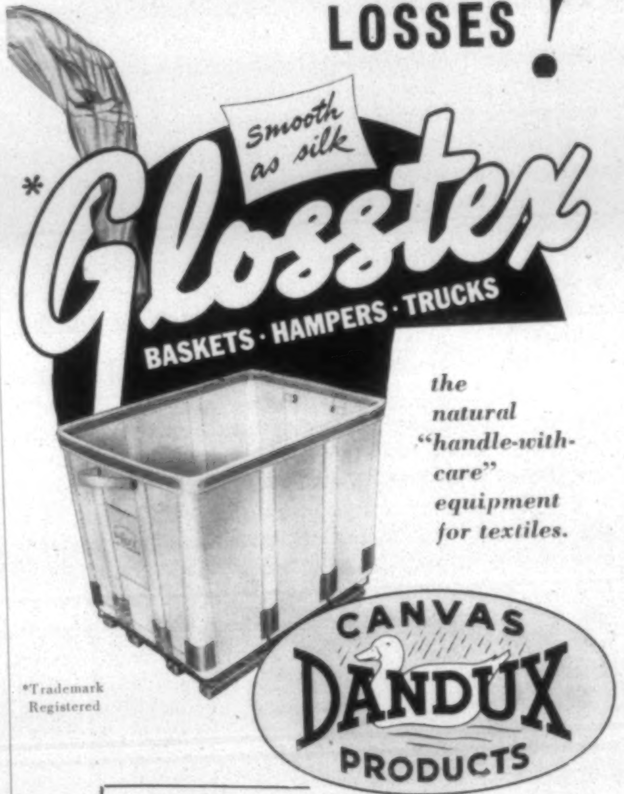

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See End Of Textile Depression Periods

The opinion that present trends point to an end to "the periods of depression that used to haunt the textile industry" was expressed recently by Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, in an address at commencement exercises of the North Carolina Vocational Textile School, Belmont, N. C. Characterizing the industry as "technically minded," Dr. Murchison said the end of the boom-and-bust economy of the past can be traced to industry-wide awakening on the following points:

(1) The strong movement away from the high degree of specialization which always characterized the industry. (Although never more than 50 per cent of the industry can actually become a part of the "integration" movement, he said the trend toward co-ordinated and adjusted operation under one central control gears the industry to a much better position in which to meet shifts in consumers' demands and tastes.)

(2) The rapid strides in technology. (None are especially revolutionary, he said, but they represent a constantly growing number of refinements in textile machinery. Since the end of World War II, the industry as a whole has invested over $5,000,000 in research.)

(3) The industry has gone forward in changing its internal structure, streamlining its operations and generally meeting the demands of the times. (In this connection, he said that fewer spindles are now in operation than ten years ago, but the output was greater because of the three-shift system. He said, too, that the industry could no longer be called an "over-capacity industry.")

(4) The industry has broadened its interests. (Mills and growers alike are working in harmony to make the industry as a whole a more constructive one in the economy of the South. He also referred to the public relations program which was showing the public generally how wrong their opinions were concerning the industry, its working conditions and its labor tactics.)

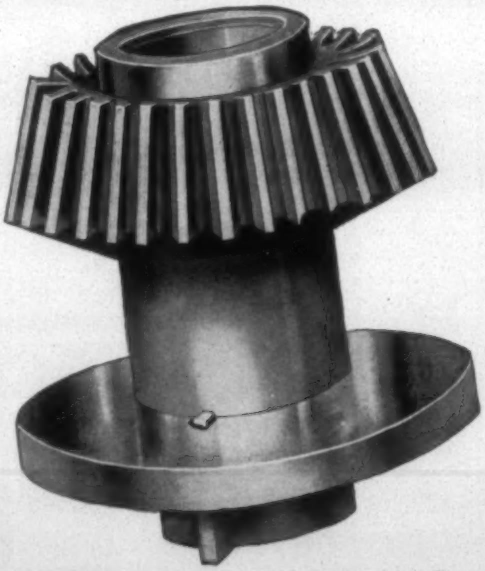
Dr. Murchison was introduced by J. Harold Lineberger, Belmont textile leader and chairman of the school's advisory board. David T. Roadley, personnel director of the Kendall Co., Charlotte, N. C., awarded the diplomas to the 78 graduates.

Stress Quality In Merchandising Fabrics

Marvin R. Cross, president of Greenwood Mills, Inc., speaking at the June 1 meeting of the American Association of Textile Technologists in New York City, told those in attendance that emphasis on quality is of primary importance in the merchandising of any fabrics.

Outlining what he considered the essentials in any fabric merchandising program, Mr. Cross stated: "Business built on quality is much harder and takes more time to get, but it is also harder to lose. If it is built on price alone, it can be lost overnight; all the other fellow has to do is to quote lower. But, if yours is built on quality, he must at least go to the effort you did to build quality and this, not many are willing to make the effort to do."

Mr. Cross stressed that a successful merchandising program is one that offers the best representation to the mills, with the best service to their customers. "Good merchandising doesn't mean selling always at the lowest price, or at the highest either," he declared. "Good merchandising is



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rather a process by which, month after month, year after year, the mill and customer both benefit." He pointed out that "all of this talent for quality must be directed—must be directed into channels to meet a demand or to create one." He declared that, not many years ago, there was no such thing as sportswear, and that today there were a host of fabrics built to meet this need.

Lack Of Cotton Hampers Europeans Mills

In order to furnish their people with the same per capita clothing as pre-war, European mills would need about a half million more bales of cotton than they will probably be able to secure through the E. C. A. and all other sources. Lack of cotton is the principal limitation to European cotton textile industry recovery, according to Caffey Robertson, foreign trade advisor to the National Cotton Council, and Read P. Dunn, Jr., the council's foreign trade director. They recently returned from a five weeks' European trip during which they investigated the cotton and marketing situation, traveling in company with E. D. White, assistant to the Secretary of Agriculture and chief of the cotton, wool and fiber branch of E. C. A.

The council representatives point out that in Europe, as elsewhere in the world, recovery of textile production will depend on the quantities of U. S. cotton which can be secured. On a world basis it is estimated that the total supplies of foreign cotton probably will be six million bales short of meeting anticipated consumption demands. Supplying the full three and three-quarter million bales of cotton contained in the original E. C. A. budget estimate submitted to Congress would enable Marshall Plan countries to consume only about 93 per cent as much cotton as in 1938-39. The smaller countries like Belgium, Holland, Norway, Denmark, Greece, and Portugal now are equaling or exceeding pre-war. Italy already is 30 per cent above pre-war in cotton consumption because of the shift from rayon to cotton necessitated by the shortage of coal. France now is about 85 per cent of pre-war. The United Kingdom, however, still is only 75 per cent of pre-war (700,000 bales under 1938-39) and Germany, as a whole, is estimated to be operating only 78 per cent of pre-war. Austria is 47 per cent but may expand to 60 per cent next session.

Mills in Eastern Europe now are operating generally at above pre-war rates. Countries like Poland and Yugoslavia got additional equipment during, or as a result, of the war. In most of these Eastern countries machinery is operated two to three shifts daily with forced labor under nationalized

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schemes. Most of their cotton has been obtained through barter from the U. S. S. R., Brazil, Egypt, Pakistan, and India. Though these industries in Eastern Europe normally use about 600,000 to 700,000 bales of U. S. cotton, only insignificant quantities have been bought recently. Aside from the shortage of cotton, the council officials report other limiting factors to production as: (1) shortage and inefficiency of labor, (2) restrictions on power, and (3) poor condition of some of the equipment. Labor shortage are real obstacles in England, Holland and in Eastern Europe, the council foreign trade staffers point out. All industries reported the operating efficiency of textile labor at only about 80 per cent of pre-war. While new operatives have learned the rudiments of their jobs, they have not yet acquired the know-how to keep machinery operating at peak efficiency. Power is a major limitation today in Spain though not in other European countries. On the other hand, fuel constitutes a shortage problem generally.

Repair and modernization of equipment is proceeding slowly throughout Europe, the cotton men report. In some parts of Germany and Poland the condition of equipment is still regarded as a limiting factor on consumption and quality of production. Where labor is available, however, industries are overcoming equipment shortages by operating machinery on two to three shifts.

The council representatives explain that the most serious competition faced by American cotton in Europe in the future is synthetic fiber. With the exception of Germany, Italy, and Austria, almost every European country is realizing record fiber production. In most instances, production is now two to three times what it was at the beginning of the war and in many countries four and five times as high. In the occupied countries, synthetic production still is lagging because of the shortage of coal. It requires from three to five times more coal to process synthetic fibers than natural fibers. In this connection, however, recent studies indicate supplies of wood pulp and cellulose will be adequate to permit contemplated expansion in the synthetic industries in Europe for several years.

The council representatives say it was alarming to observe the emphasis placed on expansion of synthetic production in an effort to balance trade expenditures. The United Kingdom, for instance, plans to expand its rayon production by 50 per cent this year. Moreover, E. C. A. insistence on dollar economy has encouraged participating countries to push synthetic production in order to balance their dollar trade. At the same time, the council trade officials point out that all countries tend to consider synthetic fiber as a substitute and report consumer resistance.

Mr. White held meetings with representatives of spinners, agents, government, and E. C. A. in all Marshall Plan countries. Purpose of these conferences was to: (1) effect better understanding on the part of industry and government as to the objectives and mechanics of the E. C. A. cotton program, and (2) to smooth out operational details and administrative procedures. Mr. Robertson and Mr. Dunn, who assisted the E. C. A. cotton head at these sessions, reported definite accomplishments in all countries in streamlining administrative procedures and reducing delay occasioned in issuing sub-authorizations, import licenses, and opening letters of credit. In non-E. C. A. countries, the group discussed possible means of expanding U. S. cotton

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exports through credits and barter. The establishment of an agreement through a government agency, with the actual shipments by private trade, was the system recommended in all barter discussions.

—And The Mill Showed The School

A complicated Gusken loom, which has not been operated for several years because of a mechanical defect, has been revamped and put into operation in the North Carolina State College School of Textiles, Raleigh, by experts from the Rocky Mount, N. C., branch of the Sidney Blumenthal Co. The loom, a very expensive machine, was made in Germany and is used in the school for making pile fabrics. Repairs to the loom were delayed for several years because such work required special technical knowledge.

E. H. Suessmuth of Rocky Mount, resident manager of the Sidney Blumenthal Co., came to the college's rescue. however, and directed his staff members to recondition the loom. Mr. Suessmuth and his staff spent several days on the job and donated their services to the college free of charge. The company also gave the school enough yarn to make "a considerable amount of material," according to Prof. Benjamin L. Whittier, head of the department of fabric development and construction. Professor Whittier said that the loom will be "a great asset" in the teaching and research programs of the school of textiles, and he expressed his appreciation to the company for its work in placing the instrument in operation again.

A manual on conduct of open house programs, compiled from the actual experience of dozens of plants, which was recently authorized by the Textile Committee on Public Relations, has been completed by Dudley, Anderson & Yutzy, the committee's public relations counsel. The manual is the first of a series to deal with various community relations techniques—press relations, local radio shows, employee publications, community advertising, recreational and social programs, and similar topics. The open house manual outlines the experience of various companies in choosing an objective for the program, holding various types of open house, procedures for issuing invitations, training guides, and handling publicity.

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Broad Woven Output Down 13 Per cent

A total of 2,249,000,000 linear yards of cotton broad woven fabrics (except tire fabrics) was produced in the first quarter of 1949, the Bureau of the Census has reported.

This production was approximately the same as in the fourth quarter but was 13 per cent below the first quarter of 1948. Tire cord and fabric, totaling 129 million pounds, was almost the same as in the fourth quarter but was 14 per cent less than a year ago.

Production of every type of goods except cotton duck and rayon and nylon tire cord and fabric was below that of the first quarter of last year. Production of napped fabrics, at 88 million yards, is the lowest since this series of reports was published in 1943.

Cotton tire cord and fabric production, totaling 60 million pounds, continued to drop, while rayon and nylon tire cord and fabric production showed a substantial increase over the fourth quarter and was 14 per cent above the first quarter of last year.

Production of narrow sheetings and allied coarse and medium-yarn fabrics increased eight per cent over fourth quarter production, with the largest increases in Class B and Class C sheetings, while drills declined. Cotton duck increased six per cent over fourth quarter production and was almost the same as a year ago.

Tobacco and cheese cloth production, at 308 million yards, showed a sharp decline, 46 million yards, from the fourth quarter and was 15 million yards less than a year ago.

Carded broadcloths, totaling 71 million yards, increased 16 per cent over fourth quarter production but the total was eight per cent less than last year.

Fiber Consumption For 1948 Analyzed

Cotton, still far in the lead among textile fibers, supplied 57.4 per cent of the nation's textile needs in 1948, compared to 58.4 per cent in 1947, 65.8 per cent in 1940-44, and 60.6 per cent during the prewar period 1935-39, according to preliminary data compiled by the U. S. Department of Agriculture. Rayon consumption last year again climbed to an all-time high, amounting to more than a billion pounds (1,017 million), or 14.9 per cent of our total fiber requirements. In 1947, consumption of rayon was 988 million pounds. Other fibers that helped supply textile demands in 1948 included: wool (ten per cent of the total, almost the same as in 1947), jute (10.3 per cent), hard fibers such as sisal and Manila hemp (six per cent), flax (0.2 per cent), and synthetic fibers other than rayon (one per cent, an increase over 1947).

These figures are from an annual survey made at the Bureau of Agricultural and Industrial Chemistry's Southern

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Regional Research Laboratory in New Orleans. They are based on fiber consumption by the ultimate consumer—that is, mill consumption of raw fibers, with adjustments for exports and imports of textile products. The survey is part of a study of trends in fiber consumption which the laboratory is making in connection with its research on cotton utilization.

Consumption of synthetic fibers other than rayon, after declining from 53.3 million pounds in 1946 to 48.9 million pounds in 1947, amounted to a record-breaking 70.7 million pounds in 1948, the compilation shows. Included in this total is consumption of nylon, glass fiber, casein fiber, zein fiber, and synthetic resin fibers (Vinyon and Saran). Most of the output of these fibers—65.8 million pounds—was continuous filament yarn; that is, similar in form to silk. The remaining 4.9 million pounds was cut staple, or staple fiber, which is suitable for spinning into yarn on cotton and wool processing machinery.

The figures on consumption of synthetic fibers other than rayon for each of the years since 1940 are given in the following table. This is the first statistical summary on the use of these fibers ever published to show the breakdown into continuous filament yarn and staple fiber. The table was compiled from confidential reports submitted by manufacturers, and therefore only combined totals for all the fibers are given. To avoid revealing operations of individual firms, the table does not indicate the extent of use of specific synthetic fibers.

CONSUMPTION OF SYNTHETIC FIBERS OTHER THAN RAYON IN THE UNITED STATES, 1940-48

Year	Yarn 1,000 Lbs.	Staple 1,000 Lbs.	Total 1,000 Lbs.
1940	3,773	698	4,471
1941	9,713	1,950	11,663
1942	18,768	4,975	23,743
1943	31,276	5,924	37,200
1944	39,627	6,741	46,368
1945	42,878	6,414	49,292
1946	42,691	10,638	53,329
1947	45,334	3,526	48,860
1948	65,815	4,888	70,703

May Spinning Shows Further Drop

The Census Bureau has reported that the cotton spinning industry operated during May at 93.8 per cent of capacity on a two-shift, 80-hour week basis. This compared with 97.9 per cent during April this year, and 134 per cent during May last year.

Spinning spindles in place May 31 totaled (in thousands)

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23,782, with 19,862 active consuming cotton on the last working day of the month, compared with 23,783, and 19,801 for April this year, and 23,742 and 21,723 a year ago.

Active spindle hours for spindles consuming cotton for May (by thousands) 7,358,000 compared with 7,442,000 for April this year and 10,080,000 in May last year.

Spindles in place May 31 (by thousands) included: in cotton-growing states, 18,464, of which 15,992 were active compared with 18,453 and 15,968 for April this year, and 18,298 and 17,094 a year ago; and in New England states, 4,832 and 3,498 compared with 4,844 and 3,456 and 4,930 and 4,202.

Active spindle hours for spindles consuming cotton for May included: in cotton-growing states, 6,311,000,000 compared with 6,350,000,000 in April this year and 8,425,000,000 in May a year ago; and in New England states, 956,000,000 and 993,000,000 and 1,525,000,000.

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Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information, service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

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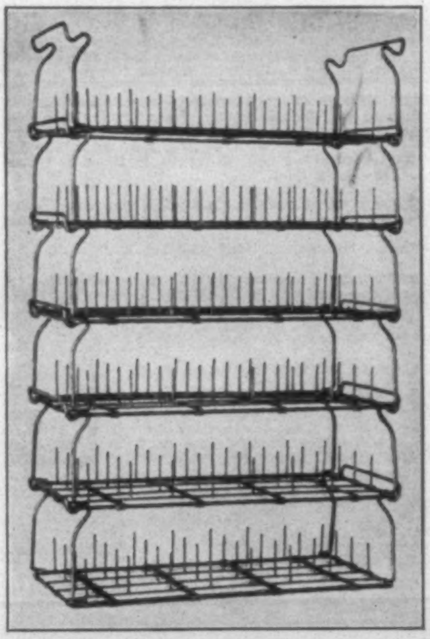

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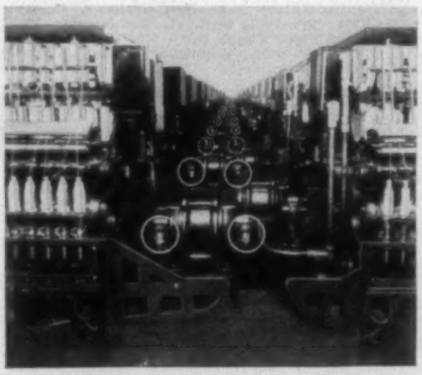

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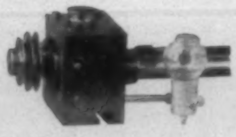

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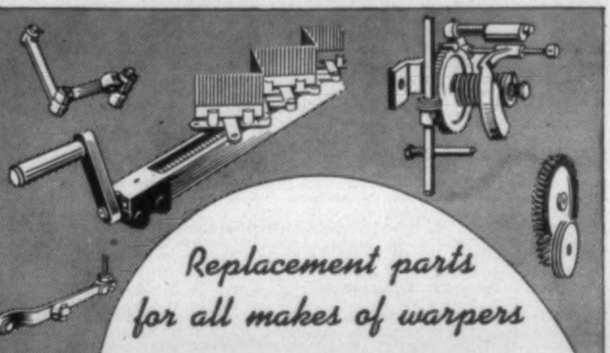

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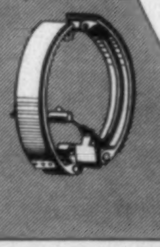

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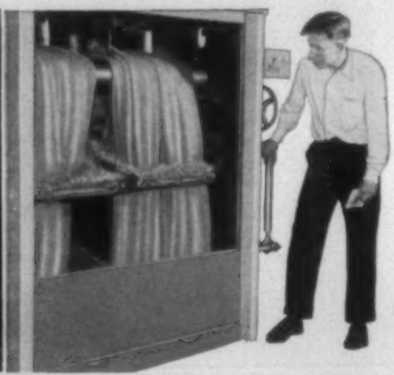

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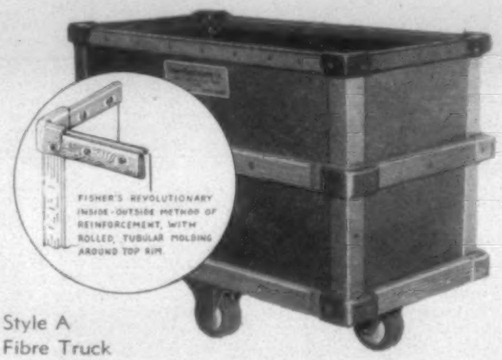
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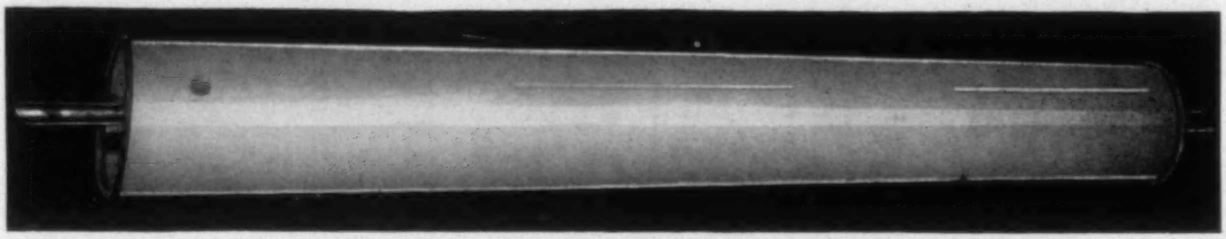

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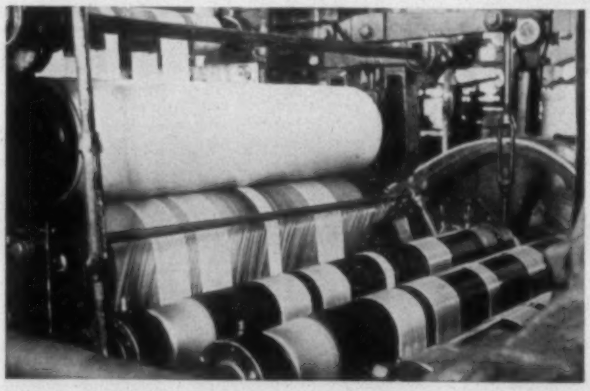

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– TEXTILE INDUSTRY HAPPENINGS AS THE MONTH ENDED –

PERSONALS

F. E. Bozeman, Jr., superintendent of maintenance at the Riverside Division of Dan River Mills, Inc., Danville, Va., was elected to the position of chairman of the board of governors of the Southern Textile Association as the organization concluded its 40th annual convention July 18 at Blowing Rock, N. C. Other officers named, in line with the S. T. A. policy of officer rotation, were: president, Smith Crow (vice-president in charge of manufacturing for Erlanger Mills, Inc., Lexington, N. C., and vice-president and general manager of Leward Cotton Mills, Inc., Worthville, N. C.), who was vice-president during the 1948-49 term; vice-president, W. Earl Crenshaw (general superintendent of carding and spinning for Springs Cotton Mills, Lancaster, S. C.), 1948-49 chairman of the board; executive secretary, Robert T. Stutts (president and treasurer of Carolinian Mills, Inc., High Shoals, N. C.), who was S. T. A. president during the past year. Virgil E. McDowell (assistant superintendent of Rosemary Mfg. Co., Roanoke Rapids, N. C.), Mr. Stutts' predecessor as executive secretary, was S. T. A. president during 1947-48. New members of the board of governors are Joseph L. Delany, superintendent of Joanna (S. C.) Cotton Mills Co.; Arthur S. Jarrett, general superintendent of Highland Park Mfg. Co., Charlotte, N. C.; James B. Lybrand, overseer of carding at the Greenville, S. C., plant of Mills Mill, a division of Reeves Bros., Inc.; and J. B. Powell, superintendent of Erlanger Mills, Inc., Lexington, N. C.

New officers of the S. T. A. Associate Members Division, elected at the convention, include: chairman, Charles H. Campbell, vice-president and sales manager for Sonoco Products Co., Hartsville, S. C.; and vice-chairman, John M. Reed, Southern agent for Ashworth Bros., Inc., with headquarters at Charlotte. P. G. Wear, Southern sales manager for Penick & Ford, Ltd., Atlanta, Ga., who was chairman of the division during the past year, now heads the division executive council, succeeding Dallas O. Neese of Odell Mill Supply Co., Greensboro, N. C.

John W. Arrington, vice-president of Union Bleachery, became the first Greenville County citizen to be honored with the title of "Citizen of the Month" by the Greenville (S. C.) Civitan Club at a luncheon June 20.

James Oates, Sr., formerly superintendent of Cornelius (N. C.) Mills, Inc., is now in charge of carding at the Birmingham, Ala., plant of Avondale Mills.

Thomas F. Nichols has been promoted to assistant overseer in charge of spooling at the Monarch Plant of Monarch Mills, Union, S. C. . . . O. C. Childers has been promoted to slasher foreman at the firm's Lockhart (S. C.) Plant.

George S. Harris, president of Dan River Mills, Inc., Danville, Va., recently was a patient at St. Luke's Hospital in New York City; his recovery is reported to be satisfactory. . . . L. O. Hammett, president of Chiquola Mfg. Co., Honea Path, S. C., is currently recuperating from a lengthy illness.

Twelve students have completed the two-year course leading to the Master of Science degree at the Institute of Textile Technology, Charlottesville, Va. Graduating June 21 were Bernard J. Bornong, Gilbertville, Ia.; Arthur F. Cacella, New Bedford, Mass.; Laurence T. Cleary, Andover, Mass.; Roger W. Cross, Jr., Manassas, Va.; William F. Gerrow, Jr., Woodberry Heights, N. J.; Laconla H. Hance, Lancaster, S. C.; Robert T. Hite, Lowesville, Va.; William H. Martin, Peoria, Ill.; Walter T. Meinert, Davenport, Ia.; Warren T. Milloway, Greensboro, N. C.; Richard G. Quynn, Newport News, Va., and Walter M. Staub, Ontario, Can.

Boyd P. Chapman, Jr., has resigned as general superintendent of the Excelsior Mills woolen plants of Deering, Milliken & Co. at Rutherfordton, N. C., and Union, S. C.

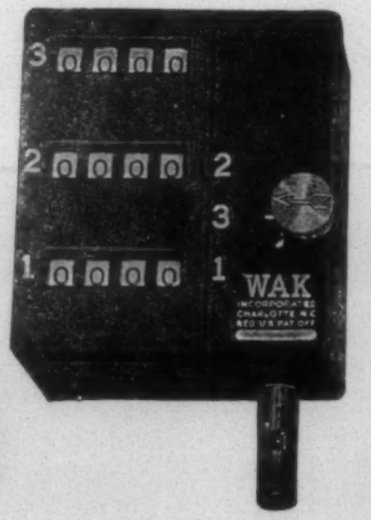
Thomas Watson has been named superintendent of the Maiden, N. C., plant of American Yarn & Processing Co. Previously overseer of carding for Republic Cotton Mills at Great Falls, S. C., Mr. Watson succeeds R. W. Faires, now superintendent of the A. Y. P. subsidiary, Spun Fibers, Inc., at Whitnel, N. C.

Reid Williams, night superintendent for the past 1½ years, will become superintendent of the Cannon Mills Co. plant at York, S. C., upon the retirement of W. E. Morton July 1. Mr. Morton has held the position since 1928.

Wes Littlefield, formerly assistant superintendent at the Bristol, Tenn., plant of American Thread Co., has been appointed superintendent of the firm's unit at Tallapoosa, Ga. He succeeds Homer McGill, superintendent since 1945 at Tallapoosa.

OBITUARIES

Charles E. White, who once represented Saco-Pettee in the Greenville, S. C., area, died June 10 at Abington, Mass., where he was associated with Abington Textile Ma-



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WAK INDUSTRIES
CHARLOTTE, N. C.

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chinery Works. Survivers include his widow and a brother, Fred H. White of Charlotte, N. C., who recently retired as general manager of Abington Textile Machine Works.

Felix Holte Lee, 44, secretary-treasurer of Railway Supply & Mfg. Co., died June 12 at Cincinnati, Ohio. He is survived by his parents, widow, two daughters and two brothers.

Julian K. Morrison, president of Brighton Mills, Inc., died June 20 at his home in Shannon, Ga. He had been in ill health for some time. Widely respected in the textile industry, Mr. Morrison had been associated with Brighton for more than two decades. He was a native of Statesville, N. C., where burial was to be held. Survivors include his widow, a son and a daughter.

MILL NEWS

ANNISTON, ALA.—The Amber Mills plant of Rhodes-Rhyne Mfg. Co. has been sold for $35,000 to J. W. Abernathy, president of Carolina Mills, Inc., at Maiden and Newton, N. C. The Amber unit contained 6,696 spindles and 52 looms; the remaining Rhodes-Rhyne plant, at Lincolnton, N. C., contains 7,864 spindles and 164 looms.

MARSHALL, N. C.—Handal Cotton Mills, Inc., is being dismantled and shipped as a unit to Guatemala, Central America. The dismantling, packing and shipping is being carried out by Yates D. Smith of Gastonia, N. C.

GREENSBORO, N. C.—Pomona Mfg. Co. is for sale at "the right price," according to J. Robert Orton of Cincinnati, treasurer of the parent firm, Beechwood Sales Corp. Mr. Orton indicated, however, that his firm is in no sense over-anxious to dispose of the property.

FAIRMONT, S. C.—The interest of W. J. Jones, Sr., textile broker of Shelby, N. C., in Fairmont Mills, Inc., has been sold to Joseph Sultan and Sons of New York City. Mr. Jones has been president of Fairmont Mills, and A. Sultan has been listed as treasurer. The plant contains 15,936 spindles and 440 looms.

LAFAYETTE, GA.—The buildings of Linwood Cotton Mills, where Publix Shirt Co. of New York City formerly operated 23,842 spindles and 428 looms, have been sold to Ely & Walker, St. Louis, Mo., dry goods firm which already has extensive production facilities in the textile industry. The sale included the plant proper, three warehouses, commissary and office building, 18 acres of land and two homes. Although Ely & Walker at first will use the property for a distribution point only, it is reported that a textile manufacturing plant employing 700 persons will be set up within the next year.

CHARLOTTE, N. C.—The new two-story modern office building at 521 East Morehead Street here has been occupied by Kendall Mills, textile manufacturing division of the Kendall Co. Management of the seven Kendall textile plants in the Carolinas will be directed from the new building, which contains 11,655 square feet of floor space.

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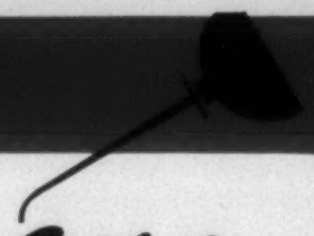

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